UMASS/AMHERST
312066 0272 8989 9

MASS. ED21.20:984

GOVERNMENT DOCUMENTS
COLLECTION

APR 27 1987

University of Massachusetts
Depository Copy

THE COMMONWEALTH OF MASSACHUSETTS

ANNUAL ACCOUNTABILITY REPORT FOR VOCATIONAL EDUCATION

FOR FISCAL YEAR 1984

Massachusetts Board of Education

Ms Mary Ellen Smith, Boston, Chairperson
Ms. Mary C. Wright, Falmouth, Vice Chairperson

Mr. Robert A. Farmer, Brookline
Mrs. Anne C. Fox, Needham
Reverend Paul V. Garrity, Malden
Ms. Milca R. Gonzalez, Worcester
Mr. James R. Grande, Hanover
Mr. Howard A. Greis, Holden
Mr. Gregory G. Nadeau, Marblehead
Mrs. Loretta L. Roach, Boston
Mr. Joseph C. Savery, Lee
Mrs. Dorothea A. Zanetti, Wilbraham

Dr. John B. Duff, Chancellor, Board of Regents of Higher Education, Ex Officio

Dr. John H. Lawson, Commissioner of Education, Secretary

TABLE OF CONTENTS

		PAGE
I.	INTRODUCTION	1-5
II.	ACHIEVEMENT OF STATE GOALS	6
	A. **GOAL 1:** Effective Administration of Vocational Education	
	1. Organization and Staffing	7
	2. Procedures for Distribution of Funds	8
	3. Use of Funds	
	A. Compliance with Federal Funding Requirements	22
	B. Use of Funds to Meet Program Needs	22
	C. Estimated Expenditures by Program Area	22
	D. Projected versus Actual Allocations	
	4. Procedures for Evaluating Vocational Programs	52
	A. State Chapter 74 Monitoring and Evaluation	52
	B. Federal P.L. 94-482 Monitoring and Evaluation	52
	5. Use of Evaluation Results to Improve Programs	55
	6. Planning	57
	7. Enrollments	31
	8. Student and Employer Follow-Up	58
	A. Follow-up of Secondary and Postsecondary Completers	45
	B. Placement of Secondary Completers of Chapter 74 Programs	60
	C. Postsecondary Completer/Leaver and Employer Satisfaction Survey	76
	B. **GOAL 2:** Educational Equity	101
	1. Division Personnel	101
	2. Regular Divisional Procedures	102
	3. Technical Services to Vocational Schools	104
	4. Sex Equity Projects	104
	5. Services to Other Priority Populations	105
	A. Handicapped	105
	B. Disadvantaged	107
	C. Limited English Proficient	108
	6. Priority Population Enrollments	110
	A. State Chapter 74 Program Areas	51
	B. Federal P.L. 94-482 Program Categories	111

PAGE

C. **GOAL 3:** Improve Vocational Education Programs and Services 123

1. Staff Training and Development 123
2. Community Based Organizations 124
3. Cooperative Education 126
4. VEA and JTPA Coordination 126
5. Programs for Postsecondary and Adult Populations 129
   A. Displaced Homemakers 129
   B. Community Colleges 129
   C. Correctional Institutions 130
   D. Vocational Schools 131
6. Instructional Programs in Operation 132
   A. Allied Health 132
   B. Vocational Home Economics 133
   C. Trade and Industry 133
   D. Technical 134
   E. Marketing and Distributive Education 135
   F. Vocational Agriculture 135
7. The Massachusetts Vocational Curriculum Resource Center 136
8. Improvement of Academic Curricula in Vocational-Technical Education 138
9. Principles of Technology 139

D. **GOAL 4:** Promote Informed Training and Career Choices 141

1. Guidance and Counseling 141
2. Student Organizations 142

   A. Distributive Education Clubs of America (DECA) 143
   B. Vocational Industrial Clubs of America (VICA) 144
   C. Future Farmers of America (FFA) 145

E. **GOAL 5:** Develop Programs that Promote Economic Development in Massachusetts 146

1. Apprenticeship Training 146
2. Entrepreneurship 146
3. Interagency Industry Specific Skills Training 146
4. Exemplary and Innovative Projects 147

F. **GOAL 6:** Increase the Effectiveness of Local Advisory Councils 150

Digitized by the Internet Archive
in 2013

http://archive.org/details/annualaccountabi1984mass

LIST OF TABLES

TABLE		PAGE
1	Relative Financial Ability Index	11
2	Concentration of Low Income Individuals Index	12
3	Occupational Education Effort Index	13
4	Combined Index	15
5	Process for Arriving at Allocations for Eligible Recipients	16
6	Per Pupil Allocations	17
7	Funding Source Index and Pupil Count Utilized in Allocations	19
7A	Lowest and Highest Allocations by Funding Source	21
8	Compliance with Federal Funding Requirements	23-25
9	Use of Federal Funds to Meet Program Needs in Fiscal Year 1984	26-29
10	Expenditures For Fiscal Year 1984	30
11	Overall Statewide Enrollments in Occupational Programs by Major Program Area and Level	31
12	Chapter 74 Secondary Enrollments and Completers By Detailed Program Area and Type of School District	32-34
13	Chapter 74 Postsecondary Day Enrollments and Completers By Detailed Program Area and Type of School District	35-37
14	Non Chapter 74 Secondary Enrollments by Major Program Area	38-39
15	Other Postsecondary/Adult Public School Enrollments by Major Program Area	40
16	Community College Day School Enrollments and Completers by Detailed Program	41-43
17	Community College Continuing Education Enrollment by Major Program Area	44
18	One-Year Follow-Up Study of June, 1983 Chapter 74 Graduates	45-50

LIST OF TABLES

TABLE		PAGE
19	Priority Populations Served in Chapter 74 Secondary Programs	51
20	Estimated Enrollments in P.L. 94-482 Programs by Program Category	111
22	Placement of Secondary Chapter 74 Completers by Major Program Area	60
23	Placement of Secondary Chapter 74 Completers by Specific Program	68
24	Placement of Secondary Chapter 74 Completers by Type of School	74
25	Average Employer Ratings of Postsecondary Training by Major Program Area	80
26	Average Student Ratings of Postsecondary Training by Major Program Area	81
27	Average Employer Ratings of Postsecondary Training by Specific Program	85
28	Average Student Ratings of Postsecondary Training by Specific Program	88
29	Average Employer Ratings of Postsecondary Training by Student Characteristics	91
30	Average Student Ratings of Postsecondary Training by Student Characteristics	93
31	Summary of Fiscal Year 1984 Teacher Training Activities	123
32	Female Enrollment Changes in Selective Secondary Vocational Schools (SSVS) for Fiscal Years 1980-1984	103

LIST OF FIGURES

FIGURE		PAGE
1A-1H	**Employment Status of Secondary Completers of Chapter 74 Programs for:**	
1A	All Programs Combined	61
1B	Agriculture	62
1C	Distributive Education	63
1D	Health Occupations	64
1E	Occupational Preparation Homemaking	65
1F	Technical Occupations	66
1G	Trade and Industry	67
1H	by type of School	75
2A-2G	**Postsecondary Follow-up: Comparisons between Employer and Student Ratings of Postsecondary Vocational Training**	
2A	by Major Program Area	82
2B,2C	for 12 Dimensions of Training	83-84
2D	for Completers versus Leavers	95
2E	by Related Job versus Nonrelated Job	96
2F	by Special Needs	97
2G	by Sex of Student	98
2H-2I	**Comparisons Among Results of Follow-Up Studies**	
2H	Employer Ratings for Three Statewide Surveys	99
2I	Student Ratings for Two Statewide Surveys	100

I. INTRODUCTION

The Massachusetts State Department of Education presents this Annual Accountability Report for Vocational Education for fiscal year 1984. This report is submitted in compliance with the requirement of Public Law 94-482 that any state receiving federal funds must submit an annual accountability report for each fiscal year included in the five year state plan. The report covers the time period between July 1, 1983 and June 30, 1984 and provides information on the achievement of state goals, program enrollments, and financial expenditures.

The Massachusetts Board of Education has a longstanding and ongoing commitment to the preparation of youth for employment. This commitment is most recently reflected in its adoption in December, 1983 of the final report of the Task Force on Public School Youth, Education and Employment and its subsequent directive to the State Department of Education to prepare a comprehensive policy on education for employment that incorporates the recommendations of the Task Force. The Massachusetts Department of Education's newly-developed Policy Statement on Youth, Education and Employment states:

> "It is the responsibility of public education to offer educational programs and services which provide students with the fundamental preparation for employment. Such programs and services are considered to be an integral part of the regular school curriculum, and must be made available to all youth regardless of race, ethnic background, gender or handicap."

The policy elaborates that to be prepared for work, a student should possess at least the following skills:

- mastery of the basic skills - communication, computation, and critical thinking; and the ability to apply such skills to on-the-job learning tasks.

- pre-employment and work maturity skills - the knowledge, attitudes, and abilities needed to make informed career decisions, to seek, obtain, and maintain employment; to change jobs and careers; to understand worker rights and union functions; to follow workplace procedures; and to meet employer expectations and rules.

- general and specific job skills for particular occupations and occupational clusters.

This report documents both the ways in which the Commonwealth has complied with Public Law 94-482 and also the ways in which progress has been made toward meeting its extensive commitment to vocational education.

The Vocational Education Delivery System

Vocational education in Massachusetts is an optional program of studies that is presented to secondary, postsecondary, and adult level populations. The program offerings represent at least 150 occupations which are organized under these seven categories:

AGRICULTURE
ALLIED HEALTH
BUSINESS and OFFICE
CONSUMER and HOMEMAKING
MARKETING and DISTRIBUTIVE
TECHNICAL
TRADE and INDUSTRIAL

In addition, industrial arts and home economics courses are in operation in some communities in grades seven and eight and on the high school level.

Secondary level programs are administered by local, regional, and county school districts. On the postsecondary level, the service providers include local, regional and county school districts in addition to the fifteen community colleges. The adult level programs are provided by local and regional school districts and the community colleges.

Vocational education on the secondary school level in Massachusetts is an optional program of studies which 256 local school districts have chosen to offer.

During the 1982-83 school year a total of 146,000 students were enrolled in vocational-education courses in public secondary schools. This number represents sixty-seven (67%) percent of the total number (311,000) of public secondary school students in 1982-83. The percentage of students enrolled in vocational education has increased from the fifty-nine (59%) level registered for the 1978-79 school year. This increase has occurred in the face of generally declining enrollments on the high school level.

There are currently 60 public school systems which provide five or more vocational programs for their secondary school students. These 60 schools include the following organizational structures:

27 Regional Vocational-Technical School Districts,
15 City or Town Vocational-Technical Schools,
13 Comprehensive Schools,
3 County Vocational-Agricultural Schools,
2 Independent Vocational School Systems (Northampton, Worcester)

These schools provide shop, related and academic classes to students in grades nine through twelve. Generally, the ninth grade program of studies is exploratory and allows students to experience each of the occupational courses provided by the school. Students then either confirm their original first choice or select a new area to pursue as a major. Most schools also provide cooperative education or other work experience programs that permit students

to integrate an on-the-job learning experience with academic and related classes over a semester in either grade eleven or, most often, grade twelve.

Students who wish to pursue postsecondary education are provided with the necessary academic courses to qualify for admission to two or four year institutions of higher education. Students also have the opportunity to acquire a considerable amount of academic and basic skills through the related courses which emphasize the mathematical and scientific principles which are applied in the shop part of the program. These related courses are in addition to required academic coursework in english, mathematics, science and social studies. As a result of the number of courses required in vocational-technical education, students who pursue these programs of study are in school an average of one half hour longer than students in academic or comprehensive schools.

Chapter 74 of the Massachusetts General Laws governs the administration and supervision of state approved vocational education programs and sets forth ten approval factors for the review of programs for this 'state approved' designation:

1. Organization
2. Control
3. Location
4. Equipment
5. Courses of Study
6. Qualifications of Teachers
7. Methods of Instruction
8. Conditions of Admission
9. Employment of Pupils
10. Expenditures

A key element of the organization of vocational education in local school districts is the requirement to utilize general and program advisory committees. Each occupational subject area must have a program advisory committee with membership from labor, business and industry in that occupation. Students, parents and other community representatives are also included on these committees. The school's general advisory committee includes but is not limited to the chairperson of each program advisory committee. It is estimated that between 8,000 and 9,000 business, industry, and labor representatives serve on these local advisory committees.

One of the major uses of the advisory committees is in the area of equipment upgrading to maintain state-of-the-art programs. Equipment must meet modern occupational standards and must be maintained and utilized in light of health and safety standards. Advisory committee members provide information to school officials about types and uses of equipment.

The establishment of a course of study is dependent on sufficient evidence of labor market demand for that occupation. Information and data from the Division of Employment Security is provided to service providers with analysis organized by the state's 15 Service Delivery Areas. Local employer surveys are important supplements or replacements for state labor market data. Again, a local program advisory committee will help to shape the program's course of study. The State Board of Education has supported the development of model

Competency Based Vocational Education curricula to lead a continuing development in the effort to explicitly detail the competencies to be achieved and used to measure students' progress. Further information on recent trends and activities related to program improvement are described in this Accountability Report.

Vocational subject instructors enter the teaching profession from the occupations and a minimum of six years of recent full-time work experience in the specific occupation is required for the technical and the trade and industrial subjects. These two areas represent approximately 70 per cent of the course offerings. Applicants for instructor approval in these fields must also pass both a written and a performance examination in their occupation and then complete an 18 credit teacher training program within a three year period.

Applicants in other fields of study (i.e. agriculture, allied health, marketing and distribution, and occupational home economics) must possess a bachelor's degree, specific credits in the occupational area, and a minimum of three years of recent full-time work experience in the occupation. These applicants must also complete an 18 credit vocational teacher training program.

Licensure appropriate to the occupation is also required of applicants in certain fields (e.g. electrical, plumbing, allied health, etc.) There are no lifetime teaching certificates in vocational education in Massachusetts. Every two year period, instructor certificates must be maintained with the completion of appropriate professional improvement. Updating or upgrading of occupational skills and advancement of teaching skills are the primary focus of this activity.

Local and state funds provide about 94% of the financial support for vocational education programs on the local school district level. The 6% support provided by federal vocational education funds are targeted by law to economically depressed communities and to the provision of services to underserved populations. State reimbursements for vocational education expenditures are sent to the general aid funds of municipalities. Schools submit annual budgets to cities and/or towns for approval. Regional vocational technical school districts' budgets must be approved by two-thirds of member cities/towns. Federal vocational education funds are to be used to supplement, not supplant local and state funds.

Financial support for postsecondary and adult vocational education includes state and federal funds and individual tuitions or admission fees. A variety of education and training programs are operated by a mix of service providers. In some cases, two or more institutions collaborate to present postsecondary or adult program of vocational education. (e.g. local school district and community college).

Community colleges offer degree or certificate programs primarily in the fields of business and office, allied health occupations, and some technical occupations. Most postsecondary programs operated by local school districts are in allied health, technical, or trade and industrial subjects. Twenty-three (23) local school districts offer related instruction for apprentices in a total of 22 occupations; approximately two-thirds of these enrollees are in

the construction trades. Short term industry specific adult training or retraining programs are also provided through local school districts and community colleges.

The Department of Education's Division of Occupational Education is responsible for the monitoring and evaluation of state approved vocational education programs which is accomplished through a system operating from the Department's six regional education centers. A comprehensive evaluation is performed on all major vocational education programs every five years with a team which includes students, occupational specialists, and Department personnel. The Division also evaluates the programs and activities which are supported by federal vocational education funds.

Schools which operate Chapter 74 vocational education programs are required to conduct follow-up studies of program completers on a one year and a four year basis. The aggregate results of the follow-up of the completers from school year 1982-1983 are provided in this Accountability Report. The Division of Occupational Education conducts special state-wide studies of student follow-up and employer satisfaction for an appropriate sample of vocational education program completers. These special studies are conducted for three 'streams' (secondary, community college, other postsecondary) on a rotating basis over a three year period.

The results of this year's study of other postsecondary vocational education program graduates are included in this Accountability Report. This report also includes the results of a special survey of the placement results of the program completers from school year 1983-1984 for secondary school programs.

Vocational education in Massachusetts is an activity which involves a considerable degree of coordination with other agencies and institutions on both the State and local level. The Department of Education, primarily through its Division of Occupational Education, coordinates with a variety of state level education, economic development, job training, labor, and human services organizations. The reader is referred to the Massachusetts Three Year State Plan for Vocational Education for Fiscal Years 1986-1988 for a detailed description of the state level coordination process.

Local level coordination is required by The Division of Occupational Education for eligibility to receive federal vocational education funds. This coordination is organized through the local plan for occupational education which is required from all service providers. Local school districts coordinate with other education and job training providers and with human service agencies.

II. ACHIEVEMENT OF GOALS

The following sections describe accomplishments or progress made in achieving the six goals for vocational education stated in the Five Year State Plan For Vocational Education which has been in effect since July 1, 1982 and which will expire as of July 1, 1985.*

GOAL 1: To administer effectively vocational education in Massachusetts

GOAL 2: To increase opportunities in vocational programs which are of high quality and realistic in terms of employment demand which meet the needs, interests and abilities of all citizens, have equal access for all and will insure that all students (particularly minorities, females, limited English proficient, handicapped, disadvantaged) are afforded equal access to vocational education programs.

GOAL 3: To improve vocational educational programs and services. The purpose of this goal is to encourage the development and implementation of uniform standards in all vocational programs; to promote, support, and improve the quality of staff development programs; to increase students' competence and career decision-making skills; to serve special adult populations; and to meet employment needs in new occupational areas.

GOAL 4: To promote informed training and career choices; to enable vocational guidance counselors to provide sound counseling to a broad range of persons; to promote the coordination of vocational guidance and counseling with the businesses, industries and professions which employ the graduates of vocational education programs; and to encourage the formation of peer and group counseling activities to retain students enrolled in programs that are non-traditional for their sex.

GOAL 5: To develop and implement vocational programs and/or services that promote economic development within Massachusetts.

GOAL 6: To increase the effectiveness of local advisory councils.

* A Three Year State Plan for Vocational Education For Fiscal Years 1986-1988 will take effect on July 1, 1985. This new Three Year State Plan includes an expanded listing of eight (8) goals which include the six goals listed above.

A. GOAL 1: TO ADMINISTER EFFECTIVELY VOCATIONAL EDUCATION IN MASSACHUSETTS

Several aspects of the Commonwealth's efforts at the effective administration of vocational education are described in this section:

1. Organization and Staffing
2. Procedures for Distribution of Funds
3. Use of Funds
4. Procedures for Evaluating Vocational Programs
5. Use of Evaluation Results to Improve Programs
6. Planning
7. Enrollments
8. Student and Employer Follow-Up

1. Organization and Staffing

The Board of Education, through its Division of Occupational Education, is the state agency responsible for the administration and supervision of vocational education programs operated by local education agencies and community colleges.

The Division of Occupational Education is charged with the responsibility of coordinating, promoting and establishing vocational, technical, adult employment training and retraining,, apprenticeship programs, occupational skills training for displaced homemakers, and of making recommendations to the Board of Education with respect to these programs.

Vocational education is administered through the Associate Commissioner and the following seven bureaus:

- Administrative Services
- Education, Training and Employment
- Firefighter Training
- Financial Management
- Planning, Research, and Evaluation
- Postsecondary Occupational-Technical Education
- Program Services

As of June, 1984 there were 119 staff (80 professional staff and 39 support staff) working in a central office, six regional centers, and a firefighting academy.

The administrative costs of operating the Division of Occupational Education require the Commonwealth to match at 50% level federal funds made available to support the administrative costs of the Division.

2. Procedures for Distribution of Funds

New funding formulas were developed in 1982 for the proposed allocation of Public Law 94-482 funds by category among eligible recipients. The formulas were originally intended for use through fiscal years 1983 to 1987. They have been designed to increase the utilization of Federal Vocational Education Act funds for improving vocational education programs and services by providing a better match between limited dollars and the urgent program needs.

Among the advantages of the new allocation methodology are:

1. the addition of recent school lunch data for measurement of concentration of low income individuals, along with AFDC data;

2. the measurement of eligible recipient need through indices which compare the data of eligible recipients directly to statewide averages;

3. the recognition of relative program costs by additional or weighted counting of pupils enrolled in multi-year state approved intensive job skills training programs for total secondary, special needs, and limited English proficient student populations;

4. updating of the population income measure;

5. the upgrading of minimum allocations for some funding categories to assure that funded programs are large enough to have measurable impact;

6. allowing regional school districts to participate in the special disadvantaged allocation distribution, as long as their index of need is significantly higher than the statewide average, and their membership includes at least one city (population of 50,000 or more); and

7. recognition of equalized effort in support of occupational programs.

A new formula for distribution of adult short-term training funds was developed for fiscal year 1984. This formula gives priority to economically depressed areas and to school districts with unreimbursed federal construction aid. This formula is calculated separately from other funding sources but uses several of the same factors. The specific factors used are described at the end of this section.

Setting Priorities

Priority for applicants located in economically depressed areas with high rates of unemployment and inability to provide resources for vocational education is accounted for in the present formula. The combined index of each school district was compared to the Areas of Substantial Unemployment Masterlist for Massachusetts, Labor Surplus Areas, and Unemployment Rates provided by the Massachusetts Division of Employment Security. These data indicated that the new formula gives priority in funding to the cities and towns located in economically depressed areas and areas where youth unemployment is high (unemployment rates for youth, ages 14 to 22, is not available by city and town). Therefore, the combined index allows the Commonwealth, in considering the approval of local applications, to give priority in the distribution of funds to those applicants located in economically depressed areas. Cooperative education program funds are not distributed by a separate formula but are included in the Subpart 2 formula distribution and are granted by need expressed in the Local Plan and Application; the combined index allows the Commonwealth, in considering the approval of local applications for cooperative education programs funds, to give priority in the Subpart 2 formula distribution to areas of high youth unemployment.

To encourage new programs which meet emerging manpower needs, funds are made available to eligible recipients through the Request for Proposal process. These funds are granted in addition to the amounts allocated by formula.

Formula Factors Federal Vocational Education Act funds are allocated among local education agencies based on their relative financial ability, relative concentration of low-income individuals, relative occupational education effort, unemployment and enrollments.

Relative financial ability is measured by computing the estimated full market value of taxable property per person for each city and town and dividing this by the statewide average. Estimates of full market value, or Equalized Valuations, are computed by the State Department of Revenue and certified to the state legislature every two years for the preceding year. The latest data are the 1980 Equalized Valuations which were so certified on or about January 1, 1981. The most recent official population figures for all cities and towns are from the 1980 census.

Relative concentration of low-income individuals is measured by Aid to Families with Dependent Children (AFDC), median family income data, and school lunch data. For each city and town, the percentages of children ages 5 to 17 for whom AFDC payments are being made is computed and then divided by the statewide percentage. These data match the state definition of economically disadvantaged or low-income pupils for distributing state educational aid. The latest available official AFDC information, obtained from the State Department of Public Welfare, is from 1981. School information is available from School Census counts required of all municipalities annually. The latest available figures represent school year 1981-82.

Since median family income is a component of the definition of economically depressed areas and serves as an indication of relative financial ability, it is used to measure concentration of low-income individuals. Median family income from the 1979 census for each city and town is divided by the statewide per capita income.

Full market value of taxable property per person indicates the tax resource base through which a majority of local expenditures are supported. The relative ability of persons to support additional local (property) taxation depends on income as well as property wealth and existing tax rates.

The percent of school lunches which are provided free or at a reduced charge is also used to measure concentration of low-income individuals. This index measures the number of low-income individuals actually enrolled in a particular school district. Latest available figures were from school year 1981-1982.

The index of equalized effort in support of occupational programs gives recognition to eligible recipients who spend a greater proportion of available education funds for occupational programs. The data used was for school year 1980-81.

Unemployment rates are January through December 1981 rates from the Division of Employment Security.

Construction of an Index The formula factors discussed above are used to construct separate indices of relative financial ability, concentration of low-income individuals, occupational education effort, and unemployment. Each index compares data for that recipient with statewide averages. As a result of this process, eligible recipients can be directly compared to each other.

Eligible recipients serving a particular city or town utilize the municipality's data in computing their index values. When a local education agency draws students from several communities, index values are based on a weighted average of the cities and towns served.

The indices have been developed to measure eligible recipient need. The higher the fiscal ability index value, the poorer the local education agency. The higher the concentration of low-income individuals, the greater the low-income index value.

A single index has been developed to measure relative financial ability. Three indices were developed (per capita income, AFDC percentage and percent of free/reduced lunch) to measure concentration of low income individuals. A single index measures occupational education effort. A single index measures unemployment. All of these indices are then added together to derive a combined index to measure overall eligible recipient per pupil need.

These indices are defined and explained on the following pages. In the examples, we assume that there are only three eligible recipients in the state (A, B, C) and their service areas do not overlap.

A. Relative Financial Ability Index

Definition

$$\text{Relative Financial Ability Index} = \frac{\text{Statewide Equalized Valuation Per Person}}{\text{Equalized Valuation Per Person for Eligible Recipient}}$$

Example

Table 1

Relative Financial Ability Index

	1	2	3	4
Eligible Recipient	Total Equalized Valuation	Population	Equalized Valuation Per Person	Index
A	$1,000,000	100	$10,000	$\frac{10,000}{10,000} = 1$
B	2,000,000	100	20,000	$\frac{10,000}{20,000} = .5$
C	5,000,000	600	8,333	$\frac{10,000}{8,333} = 1.2$
TOTAL OR AVERAGE	$8,000,000	800	10,000	

Eligible recipients A, B, and C have their total equalized valuation and populations listed in columns 1 and 2 of Table 1. Their respective per person valuations are computed in column 3. The relative financial ability index for each eligible recipient is listed in column 4. Note that the lower the property wealth per person, the higher the relative financial ability index.

B. Concentration of Low Income Individuals Index

Definition

$$1/3 \times \frac{\text{Statewide Per Capita Income}}{\text{Eligible Recipient Per Capita Income}}$$

$$+ \; 1/3 \times \frac{\text{\% of School Attending Children Receiving AFDC for Eligible Recipient Service Area}}{\text{Statewide Aver. \% of School Attending Children Receiving AFDC}}$$

$$+ \; 1/3 \times \frac{\text{\% of Recipient's School Lunches Which Are Free or Reduced}}{\text{Statewide \% of School Lunches Which Are Free or Reduced}}$$

= Concentration of Low Income Individual Index

Table 2

Concentration of Low Income Individuals Index

	1	2	3	4	5	6
Eligible Recipient	Per Capita Income	Per Capita Index	Percent of School Attending Children Receiving AFDC	AFDC Index	Ratio of Free and Reduced Lunches to Total Lunches	Lunch Index
A	$10,000	$\frac{10,000}{10,000} = 1$	6%	$\frac{6\%}{5\%} = 1.2$	.12	$\frac{.12}{.1} = 1.2$
B	$12,000	$\frac{10,000}{12,000} = .83$	2%	$\frac{2\%}{5\%} = .4$	.054	$\frac{.054}{.1} = .54$
C	9,000	$\frac{10,000}{9,000} = 1.11$	10%	$\frac{10\%}{5\%} = 2$	.156	$\frac{.156}{.1} = 1.56$

Statewide Per Capita Income = $10,000 State Average = 5% State Average = .1

Table 2 lists the per capita income, the percentage of school attending children receiving AFDC and the ratio of free and reduced school lunches to total school lunches in columns 1, 3, and 5 for our three eligible recipients (A, B, C) as well as statewide averages. In columns 2, 4, and 6 the per capita income index, AFDC index, and lunch index are computed for these eligible recipients.

C. Occupational Education Effort Index

Definition

$$\frac{\text{Recipient's}}{\text{Statewide Average}} \quad \frac{\text{Occ. Ed. Direct Expend.}}{\text{Total Direct Expend.}} \times \frac{\text{Total Operating Expend.} - \text{State Aid}}{\text{Equalized Valuation}}$$

$$= \text{Occupational Education Effort Index}$$

Table 3

Occupational Education Effort Index

	1	2
Eligible Recipient	Occupational Education Effort	Effort Index
A	.9	$\frac{.9}{1} = .9$
B	.6	$\frac{.6}{1} = .6$
C	1.2	$\frac{1.2}{1} = 1.2$

State Average = 1

Table 3 lists the occupational education effort and the effort index for our three eligible recipients.

D. Unemployment Index

Definition

$$\frac{\text{Recipient's Unemployment Rate}}{\text{Statewide Unemployment Rate}} = \text{Unemployment Index}$$

The unemployment index is used only with Combined Index 3.

E. Combined Index

There are three forms of the combined index - Combined Index 2 is used only with funding source 110b1 (Disadvantaged); combined Index 3 is used to allocate Balance of Subpart 2 plus Subpart 3 plus Subpart 5; combined Index 1 is used with all other funding sources except Postsecondary/Adult which is calculated separately using the Adult index.

Definition

Combined Index 1 = 2/3 X Relative Financial Ability Index + 1/3 X Per Capita Income Index + 1/3 AFDC Index + 1/3 School Lunch Index + 1/3 X Occupational Education Effort Index

Combined Index 2 = .8 X Relative Financial Ability Index + .4 X AFDC Index + .4 X School Lunch Index + .4 X Occupational Education Effort Index

Combined Index 3 = 5/16 (2 X Relative Financial Ability Index + 1 X Median Family Income Index + 1 X AFDC Index + 1 X School Lunch Index + 1 X Occupational Education Effort Index + .4 X Unemployment Index)

Table 4

Combined Index 1

igible cipient	1 2/3 Relative Financial Ability Index	2 1/3 Median Family Income Index	3 1/3 AFDC Index	4 1/3 Lunch Index	5 1/3 Effort Index	6 Combined Index 1
A	2/3 X 1 = .67	1/3 X 1 = .33	1/3 X 1.2 = .4	1/3 X 1.2 = .4	1/3 X .9 = .3	2.1
B	2/3 X .5 = .33	1/3 X .83 = .28	1/3 X .4 = .13	1/3 X .54 = .18	1/3 X .6 = .2	1.12
C	2/3 X 1.2 = .8	1/3 X 1.11 = .37	1/3 X 2 = .67	1/3 X 1.56 = .52	1/3 X 1.2 = .4	2.76

a Combined index 1 is computed in column 6 of Table 4 for each of our eligible recipients. This erall index of per pupil need is based on the prior derived relative financial ability, per capita come, AFDC, school lunch and effort indices. Combined index 2 is calculated in a similar manner but a median family income index is not used. Combined index 3 used one additional index - unemployment.

How the Formula Works Each eligible recipient's allocation by funding category is based on its combined index and appropriate student count, as well as the state total of funds available.

The process for arriving at allocations for eligible recipients is as follows:

FOR EACH RECIPIENT

1. compute combined index of need;
2. select the appropriate pupil count;
3. multiply the index by the pupil count to arrive at a weighted pupil total;

THEN

4. add weighted pupil totals to determine the state total weighted pupils;
5. divide the state total allocation by the state total weighted pupils to determine an allocation per weighted pupil; and

FINALLY

6. multiply each recipient's weighted pupil total by the allocation per weighted pupil to determine their total allocations.

Table 5 illustrates this process for our three hypothetical recipients, A, B, and C.

Table 5

Process for Arriving at Allocations for Eligible Recipients

	1	2	3
Eligible Recipient	Combined Index	Pupils	Weighted Pupils = Index X Pupils
A	2.1	25	52.5
B	1.12	20	22.4
C	2.76	100	276.0

State Total Weighted Pupils = 350.9

State Total Allocation = $7,001.80

Allocation Per Weighted Pupil = $7,001.80/350.9 = $20 Per Pupil

Column 1 repeats the combined index values previously computed. The pupil counts for each recipient are given in column 2. Multiplying these two figures we arrive at the weighted pupil totals in column 3. The state total allocation of $7,001.80 is then divided by the state total weighted pupils of 350.9 to arrive at an allocation per weighted pupil of $20.

Table 6

Per Pupil Allocations

	1	2	3
Eligible Recipient	Weighted Pupils	$20 X Weighted Pupils	Total Allocation Allocation Per Pupil
A	52.5	$1,050	$\frac{\$1,050}{25} = \$42.00$
B	22.4	$448	$\frac{\$448}{20} = \$22.00$
C	276.0	$5,502	$\frac{\$5,502}{100} = \$55.02$

A, B, and C's total allocations are listed in column 2 of Table 6. They were determined by multiplying weighted pupil totals by $20 per pupil. Per pupil allocations (column 3 of Table 6) are simply total allocations divided by the pupil count.

The equalizing features of this process are apparent from the allocations per pupil. Recipient C (the neediest) receives $55.02 for each of its pupils, while B (the least needy) receives a per pupil allocation of only $22.00.

Allocation Formulas by Funding Source

A. Formulas and Formula Factors

Separate formulas were utilized to determine allocations by eligible recipient for the following funding categories:

1. Handicapped (110A)
2. Disadvantaged (110B1)
3. Limited English Proficiency (110B2)
4. Postsecondary/Community College (110c)
5. Postsecondary/Adult (110C)
6. Special Disadvantaged

The distribution of these student populations vary widely among eligible recipients depending upon the type of institution and the geographic service area. Separate formulas with separate pupil counts allow Public Law 94-482 funds to be allocated to institutions serving these target population groups on the basis of the number of such students served and overall recipient need per pupil, as represented by the combined index.

One formula was utilized for the allocation among eligible recipients of the following funding categories combined:

1. Balance Subpart 2;
2. Guidance and Counseling (Subpart 3);
3. Consumer and Homemaking (Subpart 5).

Since these funds are for programs available to all students, their distribution should depend upon overall enrollments in addition to the combined index.

Guidance and Counseling and Consumer and Homemaking funds are allocated by separate formulas. Since the total of these and Balance Subpart 2 funds are controlled by the combined formula, Balance Subpart 2 allocations are the residual or difference between combined formula allocations and the sum of Guidance and Counseling and Consumer and Homemaking allocations.

Recognized and approved by the Commonwealth of Massachusetts, Chapter 74 provides programs of multi-year intensive job skills training. The per pupil cost of these programs is significantly greater than that of other educational programs, as reflected by a pupil weight twice that of regular programs in the state educational aid formula (Chapter 70). In determining the pupil count for allocating Public Law 94-482 funds, the higher cost of these programs has been recognized by double counting students enrolled in these programs for the Handicapped, Limited English Proficient, Combined and Guidance and Counseling formulas.

The pupil count for allocating Special Disadvantaged funds is the number of pupils who withdrew (dropped out) for economic reasons during the academic year. This count is an accurate measure of the size of the drop-out problem for each eligible recipient.

For Disadvantaged allocations, the index of per pupil need is different from the combined index. Since these funds are used to provide support services and programs to economically and academically disadvantaged pupils, the per capita income index is not included, and the AFDC index is given additional weight.

The pupil count data utilized in the allocation formulas are presented in Table 7.

Table 7

Funding Source Index and Pupil Count Utilized in Allocations

UNDING SOURCE	INDEX	PUPIL COUNT UTILIZED FOR ALLOCATION FORMULA
	SEPARATE FUNDING FORMULAS	
capped)	Combined Index 1	Estimated Special Education Secondary Full-Time Equivalent Pupils Plus Estimated Secondary Special Education Full-Time Equivalent Pupils in Chapter 74 Occupational Programs
vantaged 1)	Combined Index 2	All Secondary Pupils
ed English ciency 2)	Combined Index 1	Transitional Bilingual Education Secondary Full-Time Equivalent Pupils Plus Estimated Secondary Limited English Proficient Full-Time Equivalent Pupils in Chapter 74 Occupational Programs
al Disadvantaged	Combined Index 1	Number of Pupils who Withdrew from School for Economic Reasons during the School Year
econdary/Community ge)	Combined Index 1	Total Community College Full-Time Equivalent Enrollments Exclusive of Division of Continuing Education Enrollments
econdary/Adult (110c)	Adult Index	Chapter 74 Postsecondary/Postgraduate Full-Time Equivalent Pupils
	COMBINED FUNDING FORMULA	
e Subpart 2 and ce & Counseling rt 3) and er and Homemaking rt 5)	Combined Index 3	All Secondary Pupils Plus Chapter 74 Full-Time Equivalent Secondary Pupils
ce & Counseling rt 3)	Combined Index 1	All Secondary Pupils Plus Chapter 74 Full-Time Equivalent Secondary Pupils
er & Homemaking	Combined Index 1	All Secondary Pupils

B. Allocations Levels and Other Factors

The combined index has been designed to give priority consideration in distributing funds to urban and rural school districts which are located in economically depressed areas with relatively high concentration of low-income persons, high unemployment rates, and relatively low financial ability to provide resources to meet the vocational need of the community.

In order to assure that allocations by funding sources are sufficient to have a measurable impact on he delivery of vocational education programs, minimum allocations have been established for several funding categories. Those eligible recipients whose total weighted pupils are insufficient to generate these minimum allocations either receive no allocations for that category, or, in the case of poorer rural communities, have their allocations raised to the minimum level.

Table ?? indicates the lowest and highest allocations by funding source. In addition, other factors regarding the allocations are listed in this table.

C. Adult Short-Term Formula Factors

Approximately $1.6 million of subpart 2 funds were earmarked for adult short-term training programs and were distributed through a separate two-stage formula to area vocational-technical schools.

The first stage of the formula determines which school districts are eligible for adult short-term training funds. For each of the 62 area vocational-technical schools the unemployment index (explained earlier) is added to a construction index. The construction index is equal to the total construction money still due a particular system divided by the available funds for the year ($1.6 million) divided by the number of area-vocational schools (62). If the unemployment index plus the construction index is greater than or equal to 2.0, the school district is eligible.

In the second stage of the formula, the allocations for the eligible districts are calculated. A weight for each eligible district is calculated by adding Relative Financial Ability Index + .5 X AFDC Index + .5 X School Lunch Index + .9 X Construction Index. The weights for all districts are summed to obtain the statewide weight. Each district's allocation equals the district's weight divided by the statewide weight times the total available funds ($1.6 million).

TABLE 7A

Funding Levels and Other Factors

FUNDING CATEGORY	LOWEST	HIGHEST	OTHER FACTORS
Handicapped	$3,000	$171,200	Eligible recipients whose combined index exceeded 1.990, and whose computed allocation was less than the minimum, were allocated the minimum amount
Disadvantaged	10,000	274,743	
Limited English Proficient	6,279	60,687	---
Special Disadvantaged	1,309	66,463	1. Combined index exceeded 2.590 2. Local school district with population exceeding 50,000 3. Region with member city meeting requirements 1 and 2
Postsecondary	42,346	143,834	For purposes of formula distribution, the community colleges were considered as eligible recipients and subject to the local education agency factors.
Combined Allocation	---	---	---
Guidance and Counseling	3,000	87,750	
Consumer and Homemaking	3,017	95,480	Not allocated to regional vocational technical schools, independent vocational school districts or county agricultural
Balance Subpart 2	1,173	405,775	---

3. Use of Funds

The Commonwealth of Massachusetts has ensured that the use of funds is consistent with federal requirements. This section documents the following aspects of the effective financial management of vocational education:

A. Compliance with Federal Funding Requirements
B. Use of Federal Funds to Meet Program Needs and Explanation of Discrepancies
C. Estimated Expenditures by Program Area
D. Projected versus Actual Allocations by Eligible Recipient

A. Compliance with Federal Funding Requirements

Table 8 illustrates how the use of funds was in compliance with federal requirements in the following areas:

- maintenance of effort
- set-a-side percentages for handicapped, disadvantaged, and postsecondary/adult
- state matching requirement

As shown in Table 8, in all instances the Commonwealth approximately met or exceeded federal requirements. Table 8 also gives a detailed breakdown of state/local expenditures, excess cost requirements, and administrative expenditures.

B. Use of Federal Funds to Meet Program Needs and Explanation of Discrepancies

Table 9 gives the budgeted and actual expenditures in each subpart category and explains the reasons for any large discrepancies between the budgeted and actual expenditures. The table also briefly describes the results accomplished with the funds in each subpart category. More detailed descriptions of program results are provided elsewhere throughout this report.

C. Estimated Expenditures by Program Area

Table 10 details the estimated fiscal year 1984 expenditures in each of the major program areas for secondary, postsecondary/adult, community college, and instructional programs.

4. Procedures for Evaluating Vocational Programs

The comprehensive and ongoing monitoring and evaluation of vocational programs has a central role in Massachusetts' administration of vocational education. This section describes the procedures used in the statewide monitoring and evaluation of:

A. State Chapter 74 programs, and
B. Federal P.L. 94-482 programs

Table 8

Fiscal Year 1984

Compliance With Federal Funding Requirements

Maintenance of Effort

Fiscal Year	State/Local Expenditures
1983	$237,095,865
1984	$240,100,644
Difference	+ 1.3 percent

Setaside Percentages

Setaside Category	Fiscal Year 1984 Estimated Expenditures	Estimated Actual Percent of Total Subparts 2 & 3	Required Percent
Handicapped (110A)	$1,063,903	*7.6%	10%
Disadvantaged:			
Limited English (110B2)	223,730		
Other (110B1)	2,053,349		
Total Disadvantaged	2,277,079	*16.3%	20%
Post Secondary/Adult (110C)	3,115,830	22.3%	15%

Limited English Proficient Population Ages 15-24
Divided by Total Population Ages 15-24 = 2%

Limited English Proficient Expenditures
Divided by Total Disadvantaged Expenditures = 9.8%

Matching Requirement

Fiscal Year 1984 State/Local Expenditures	Fiscal Year 1984 Federal Expenditures	Total
$240,100,644	$15,031,561	$255,132,205

5.9%

or
16 to 1 (State/Local to Federal)

* Setaside percentage requirements will be met with carryover funds to be spent in fiscal year 1985.

Table 8 (continued)

Breakdown of State/Local Expenditures

Program and activities supported in whole or in part by state and local funds used to match federal funds and for maintenance of effort purposes have met the same conditions and requirements as those supported by federal funds.

Estimated Fiscal Year 1984 State/Local Expenditures	Laws/Regulations/Policies Governing Use of State/Local Funds in Accord With Federal Conditions & Requirements
Full-Time Occupational Day $137,046,416	
Disadvantaged (Excess Costs) $2,487,999	General Laws: Chapters 15, 70 and 74 Board Policy on Occupational Education
Postsecondary/Adult (Chapter 74) $6,348,795	
Guidance and Counseling $7,440,018	
Community Colleges $17,000,000	Joint Policy on Occupational Education
Construction of Vocational Facilities $5,000,000	Chapter 645 - Acts of 1948 as Amended
Handicapped Vocational (Excess Costs) $10,472,392	Chapter 766 and Board Policy
Limited English Proficiency (Excess Costs) $1,385,485	Chapter 71A and Board Policy
Consumer and Homemaking (Non-Occ) $16,437,551	Chapter 70 and Board Policy
Industrial Arts $28,161,262	Chapter 70 and Board Policy
Administration $8,320,726	
$240,100,644 TOTAL	

$240,100,644 is the Fiscal Year 1984 state and local expenditure for vocational education in the Commonwealth of Massachusetts used as matching and maintenance of effort requirements.

Excess Cost Requirement

Setaside Category	Fiscal Year 1983 Estimated Federal Expenditures	Fiscal Year 1983 State/Local Expenditures
Handicapped	$1,063,903	$10,472,392
Disadvantaged	2,053,349	2,487,999
Limited English Proficient	223,730	1,385,485
Postsecondary/Adult	3,115,830	23,348,795

Administrative Expenditures

1. Estimated State Administrative Costs

Estimated State Administrative Costs under Sections 120, 130, and 150 at the federal and state levels are listed below.

	Federal	State	Purpose
Section 120	$936,407	$961,293	General Administration Central and Regional Technical Assistance for Vocational Education Programs at local schools
Full Time Sex Equity	64,897		Activities to eliminate sex discrimination and sex stereotyping
Section 130	250,326	255,533	Data collection, evaluation of local program planning, and RCU administration
Section 150	72,035		Technical assistance to local schools
TOTAL	$1,323,665	$1,216,826	

2. Local Administrative Expenditures

Local administrators costs for local vocational education programs, including administration, planning, and evaluation activities are not reported by separate funding category. Community college administrative expenditures are not included in the figure below.

Funding Categories	Estimated Local Administrative Costs
Section 120	Regular Vocational/Occupational Programs
Section 130	Program Improvement and Supportive Services
Section 140	Special Programs for the Disadvantaged
Section 150	Consumer and Homemaking Education
TOTAL LOCAL ADMINISTRATION	$7,103,900

Table 9 - Use of Federal Funds to Meet Program Needs in Fiscal Year 1984

Expenditures by Subpart	Budget	Actual	Deviation	Reason For Deviation	Description of Results
Basic Grants Programs (Sec. 120)					
Handicapped	$1,340,047	$1,063,903	$276,144	Setaside requirement will be fully met in FY85 for FY84 funds.	Supportive services, specialized training and individualized assistance were provided for handicapped students enrolled in regular vocational education programs.
Disadvantaged	2,450,094	2,053,349	396,745	Same as above	Supportive services directly related to improving the ability of disadvantaged students to succeed in vocational education programs were delivered.
Limited English Proficient	230,000	223,730	6,270	Same as above	Individualized English language instruction in skills training and related theory was provided to limited English proficient students.
Postsecondary	2,010,070	2,053,063	(42,993)	Increase in emphasis on adult training/retraining programs.	Funding programs provided incentives for improved guidance and support services, improved use of community resources and promotion of economic development.
Other Students	5,314,846	4,435,503	879,343	Unspent funds will be redistributed in F.Y. 1985	Projects resulted in improvement of existing skills training programs, expansion of program offerings and increased enrollment in skills training programs.
Cooperative	161,412	40,041	121,371	LEA's chose to use their skill training funds for other types of programs.	By providing effective transition from the vocational training setting to actual employment, job placement rates were improved.

Table 9 - Use of Federal Funds to Meet Program Needs in Fiscal Year 1984 (Continued)

Expenditures by Subpart	Budget	Actual	Deviation	Reason For Deviation	Description of Results
Displaced Homemakers	200,000	210,636	(10,636)	Greater demand for displaced homemaker programs.	Organized nontraditional programs provided the following services for displaced homemakers: assessment of employment objectives, skills training and placement counseling.
Interagency Industry Specific	400,000	725,498	(325,498)	Increase in emphasis on adult training/retraining programs.	Short term skills training responded to training needs of the unemployed and the underemployed and to industry's needs for personnel.
Sex Equity Personnel	60,000	64,897	(4,897)		An Office of Educational Equity has been created with full-time personnel responsible for all activities described in Section 104 (b), (A) through (I), of Public Law 94-482.
Correctional Programs	250,000	126,633	123,367	Funds used for other adult categories.	Skills training and supportive services were provided for persons incarcerated in county correctional and other institutions.
Student Organizations	-0-	38,039	(38,039)	Budgeted under "Other Students" category.	Leadership was provided to students enrolled in DECA, VICA, and FFA.
State Administration	984,000	936,407	47,593		
SUB TOTAL (Sec. 120)	13,400,469	11,971,699	1,428,770	Balance of funds will be spent in spent in F.Y. 1985.	

Table 9 - Use of Federal Funds to Meet Program Needs in Fiscal Year 1984 (Continued)

Expenditures by Subpart	Budget	Actual	Deviation	Reason For Deviation	Description of Results
Program Improvement and Support Services (Sec. 130)					
Exemplary and Innovative	499,710	115,539	384,171	Model programs were funded from other categories.	Model programs in Principles of Technology, School-to-Work Transition and Academic Support were funded.
Curriculum Development	300,000	223,420	76,580		In addition to the funding of curriculum development, the most current curriculum resources were made available to all vocational educators.
Research	100,000	69,159	30,841		A statewide evaluation system has been developed to determine the success and efficiency of vocational education programs.
Guidance and Counseling	680,000	861,215	(181,215)	Additional funds given to community based organizations to help disadvantaged students make the transition into vocational ed.	Services provided assistance to students in making informed occupation decisions, career decisions, or decisions regarding postsecondary education.
Personnel Training	404,560	156,795	247,765	Increased demand for other Subpart 3 programs.	Recruitment and training resulted in an increased number of female, minority and bilingual vocational education instructors in the state.
Sex Bias Grants	170,000	127,265	42,735		Model projects, research and staff training resulted in increased female/male enrollments in nontraditional skills training programs, improved capactiy of Department and LEA personnel to insure sex equity.
RCU	-0-	160,742	(160,742)	Budgeted under other categories.	
State Administration	246,000	250,326	(4,326)		

Table 9 - Use of Federal Funds to Meet Program Needs in Fiscal Year 1984 (Continued)

Expenditures by Subpart	Budget	Actual	Deviation	Reason For Deviation	Description of Results
Special Programs for the Disadvantaged (Sec. 140)					
SUB TOTAL (Sec. 140)	344,785	193,317	151,468	Balance of funds will be spent in fiscal year 1985.	Opportunities for comprehensive vocational and exploratory programs with strong guidance and counseling components provided for disadvantaged students.
Consumer and Homemaking Education (Sec. 150)					
C & H Depressed	450,000	463,231	13,231	Change in the method of designating communities as depressed/non-depressed resulted in fewer communities being identified as depressed.	The following programs were provided to encourage both males and females to prepare for the occupation of homemaker and wage earner: consumer education, food and nutrition, family life education, parenting education, child development & guidance and housing and home management.
C & H Non-Depressed	209,724	280,646	(70,922)		
Ancillary and Administration	100,000	72,035	27,965		
SUB TOTAL (Sec. 150)	759,724	815,912	(56,188)	Excess was funded with F.Y. 1983 carryover money.	
Planning & Data Collection (Sec. 102D)					
SUB TOTAL (Sec. 102D)	86,172	86,172	-0-		Occupational enrollment, expenditure and follow-up data was collected, analyzed and used for evaluation of occupational programs.
GRAND TOTAL	$16,991,420	$15,031,561	$1,959,859	Balance will be spent in F.Y. 1985	

TABLE 10

Fiscal Year 1984

EXPENDITURES BY PROGRAM AREA

Program Area	State and Local Direct Instruction Expenditures By School Districts		Community College State and Local Expenditures	Federal (P.L. 94-482) Instructional Expenditures
	Secondary	Postsecondary/Adult		
01.0000 Agriculture	$3,779,538	$737,359		$130,278
04.0000 Distribution	3,956,983	103,035		383,270
07.0000 Health	3,123,738	2,049,589		499,416
09.0100 C/H Non Occ.	16,923,684	294,366		743,877
09.0200 C/H Occ. Prep.	2,342,956	1,775		180,274
14.0000 Office	36,680,102	incl. in secondary		4,719,079
16.0000 Technical	4,097,521	1,932,749		715,558
17.0000 Trades/Industry	80,535,466	1,164,053		4,589,577
10.0000 Industrial Arts	28,161,262	65,869		-0-
Subtotal	$179,601,250	$6,348,795		$11,961,329
Expenditures Not Classified by Program Area	$2,680,613	-0-	$17,000,000	1,461,615
Total Expenditures	$182,281,863	$6,348,795	$17,000,000	$13,422,944
Total State & Local Instructional Expenditures		$205,630,658		
Total Federal Instructional Program Expenditures				$13,422,944

FISCAL YEAR 1984

ENROLLMENT

DATA

Table 11

Fiscal Year 1984

Overall Statewide Enrollments in Occupational Programs
By Major Program Area and Level

Program	School Districts		Community Colleges	Total
	Secondary	Postsecondary/ Adult	Postsecondary/ Adult	
Agriculture	1,526	1,481	99	3,106
Distributive Education	4,573	106	1,690	6,369
Health Occupations	1,953	1,006	4,325	7,284
Consumer and Homemaking (Occ. Prep. & Not Occ. Prep.)	39,989	4,963	908	45,860
Office Occupations	99,894	3,461	15,424	118,729
Technical Occupations	2,787	1,090	5,882	9,759
Trade and Industrial	35,825	5,192	638	41,655
Totals	186,497	17,299	28,966	232,762
Other Occupational Programs:				
Industrial Arts				
Grades 7 and 8			58,708	
Secondary			55,012	
Consumer and Homemaking (Not Occupational) Grades 7 and 8				54,376
Adult Practical Arts not included above				2,783
TOTAL STATEWIDE ENROLLMENTS				403,641

TABLE 12

Fiscal Year 1984

Chapter 74 Secondary Enrollments and Completers
By Detailed Program Area and Type of School District

Students, Completers, Number of Programs

	USOE Code and Title	Number of Programs RV	AR	LSD	1983-1984 Enrollments	1983-1984 Completers
010100	Agricultural Production	3	1		157	46
010101	Animal Science	2		1	229	34
010200	Agricultural Supplies	1			41	14
010199	Poultry Science				14	7
010300	Agricultural Mechanics	1	1		51	15
010500	Ornamental Horticulture	7	2	2	383	91
010700	Forestry	2			78	27
019900	Other Agriculture	1		2	266	16
010501	Arboriculture	1			15	8
010502	Floriculture	1			26	20
010504	Landscaping	1			25	25
010102	Plant Science	1			59	2
	SUBTOTAL AGRICULTURE	21	4	5	1,344	305
040200	Apparel and Accessories			1	3	0
040400	Finance and Credit			2	52	7
040700	Food Service	3		1	119	45
040800	General Merchandising	12	10	49	3,099	1,316
041100	Hotel and Lodging	1		1	36	5
049901	Small Business Management				73	0
	SUBTOTAL DISTRIBUTIVE EDUCATION	17	10	54	3,382	1,373
070101	Dental Assistant			1		
070299	Medical Lab., Other			1		
070303	Nursing Assistant (Aide)	6		6	760	201
070904	Medical Assistant	1		1	107	25
070906	Health Aide	13	1	3	876	217
079902	Dietary Aide	1				
	SUBTOTAL HEALTH	21	1	12	1,743	443

RV=Regional Vocational Technical, County Agricultural, and Independent Vocational Districts
AR=Academic Regional Districts
LSD=Local School Districts (Single City or Town School Districts)

TABLE 12

Fiscal Year 1984

Chapter 74 Secondary Enrollments and Completers
By Detailed Program Area and Type of School District

Students, Completers, Number of Programs

	USOE Code and Title	Number of Programs RV	AR	LSD	1983-1984 Enrollments	1983-1984 Completers
090201	Care and Guidance of Children	7	2	7	566	122
090202	Clothing	6		2	224	64
090203	Food Management Production/ Services	2		1	228	17
090205	Institutional and Home Management	3			393	38
	SUBTOTAL OCCUPATIONAL PREPARATION HOMEMAKING	18	2	10	1,411	241
160108	Electronic Technology	1			35	7
160117	Scientific Data Technology	2			125	19
160401	Programmer	18	1	7	1,425	361
160105	Chemical Technology	1			50	8
160699	Communications Technology			1	11	0
169907	Business Technology	2			152	75
	SUBTOTAL TECHNICAL	24	1	8	1,798	470
170100	Air Conditioning	16		3	547	153
170200	Appliance Repair	5		2	183	39
170301	Body and Fender	23	1	13	1,696	322
170302	Auto Mechanics	28	7	24	3,724	781
170700	Commercial Art	15		4	817	198
170900	Commercial Photography			1	54	5
171001	Carpentry	27	7	19	3,126	672
171002	Electricity	17	2	8	1,390	295
171003	Heavy Equipment	2			29	17
171004	Masonry	9			260	73
171005	Painting and Decorating	16		5	610	151
171007	Plumbing and Pipefitting	19	1	3	1,043	227
171099	Construction and Maintenance Other	12		3	485	106
171100	Custodial	1			20	1

TABLE 12

Fiscal Year 1984

Chapter 74 Secondary Enrollments and Completers
By Detailed Program Area and Type of School District

Students, Completers, Number of Programs

	USOE Code and Title	Number of Programs RV	AR	LSD	1983-1984 Enrollments	1983-1984 Completers
171200	Diesel Mechanics	6			208	64
171300	Drafting	26	3	16	1,716	356
171400	Electrical	11		10	1,258	287
171500	Electronics	25	1	19	2,537	611
171503	Radio & Television	2		1	184	37
171900	Graphic Arts	20	2	18	1,967	508
171902	Printing Press Operator Graphics	3		2	239	38
172100	Instrument Maintenance	1			19	4
172200	Maritime Occupations	4			111	37
172302	Machine Shop	26	4	19	2,818	638
172305	Sheet Metal	12	3	8	773	496
172306	Welding and Cutting	10		4	617	123
172309	Metal Patternmaking			1	23	6
172399	Metalworking, Other	12		7	892	582
172602	Cosmetology	20		9	1,257	417
172700	Plastics	2			48	13
172900	Quantity Food	20	3	10	2,057	517
172902	Cook/Chef	3		2	360	43
173100	Small Engine	5		3	264	45
173200	Stationary Energy	1		1	105	24
173300	Textile Production and Fabrication	3		2	157	29
173500	Upholstering	5		2	153	21
173600	Woodworking/Cabinetmaking	8	1	10	854	163
179901	Industrial Sewing Machine Repair			1	71	12
SUBTOTAL	TRADE AND INDUSTRY	415	35	230	32,672	8,111
	TOTAL	516	53	319	42,350	10,943

TABLE 13

Fiscal Year 1984

Chapter 74 Postsecondary Day Enrollments and Completers
By Detailed Program Area and Type of School District

Students, Completers, Number of Programs

	USOE Code and Title	Number of Programs RV	AR	LSD	1983-1984 Enrollments	1983-1984 Completers
010500	Ornamental Horticulutre	1			103	26
010600	Agriculture Resources	1			28	13
019900	Other Agriculture	1			41	4
010700	Forestry	1			25	7
010101	Animal Science	1			91	35
	SUBTOTAL AGRICULTURE	5			288	85
040200	Apparel & Accessories	1		1	56	6
040700	Food Services			1	47	6
040800	General Merchandising			1	3	0
	SUBTOTAL DISTRIBUTIVE EDUCATION	1		3	106	12
070101	Dental Assistant	6		1	84	83
070203	Medical Lab Assistant	1			15	9
070299	Medical Lab other	1			32	7
070302	Practical Nursing	10		3	352	352
070303	Nursing Aide	2			25	25
070305	Surgical Technician	3		1	29	29
070600	Ophthalmic	1			27	24
070904	Medical Assistant	7			113	113
	SUBTOTAL HEALTH	31		5	677	642
090203	Food Management, Production & Services	1			6	6
	SUBTOTAL OCCUPATIONAL PREPARATION	1			6	6

TABLE 13

Fiscal Year 1984

Chapter 74 Postsecondary Day Enrollments and Completers
By Detailed Program Area and Type of School District

Students, Completers, Number of Programs

	USOE Code and Title	Number of Programs RV	AR	LSD	1983-1984 Enrollments	1983-1984 Completers
160103	Architectural Technology	2			38	28
160106	Civil Technology	1			33	14
160108	Electronic Technology	3			90	62
160109	Electro-mechanic Technology	2			48	47
160401	Programmer	4		1	198	105
	SUBTOTAL TECHNICAL	12		1	407	256
170100	Air Conditioning	1			54	19
170700	Commercial Art	2			53	23
171200	Diesel Mechanics	1			66	28
171300	Drafting	1			6	1
172306	Welding	1			27	13
172602	Cosmetology	2		1	119	72
172902	Cook/Chef				118	41
	SUBTOTAL TRADE AND INDUSTRY	8		1	443	197
	POSTGRADUATES					
170200	Appliance Repair	N/A	N/A	N/A	2	0
170301	Body and Fender	N/A	N/A	N/A	11	3
170302	Auto Mechanics	N/A	N/A	N/A	33	10
171001	Carpentry	N/A	N/A	N/A	9	4
171002	Electricity	N/A	N/A	N/A	14	2
171007	Plumbing	N/A	N/A	N/A	1	1
171500	Electronics	N/A	N/A	N/A	26	14
171900	Graphic Arts	N/A	N/A	N/A	5	2
172302	Machine Shop	N/A	N/A	N/A	14	5
171004	Masonry	N/A	N/A	N/A	9	1

TABLE 13
Fiscal Year 1984

Chapter 74 Postsecondary Day Enrollments and Completers
By Detailed Program Area and Type of School District

Students, Completers, Number of Programs

	USOE Code and Title	Number of Programs RV	AR	LSD	1983-1984 Enrollments	1983-1984 Completers
172305	Sheet Metal	N/A	N/A	N/A	2	1
172399	Other Metal (Fab)	N/A	N/A	N/A	1	0
172900	Quantity Foods	N/A	N/A	N/A	5	5
173100	Small Engine	N/A	N/A	N/A	3	0
173600	Cabinetmaking	N/A	N/A	N/A	4	2
	SUBTOTAL POSTGRADUATES				139	50
	TOTAL	62		10	2,066	1,248

TABLE 14
Fiscal Year 1984

NON CHAPTER 74 SECONDARY ENROLLMENTS BY MAJOR PROGRAM AREA
(With Detailed Breakdown for Office Occupations and Consumer/Homemaking)

Occupational Preparation Programs

	USOE Code and Title	1983-1984 Detailed Program* Enrollment	1983-1984 Major Program** Enrollment
010000	Agriculture		182
040000	Distributive Education		1191
070000	Health Occupations		210
090200	Occupational Home Economics		1008
140100	Accounting and Computing	19,503	
140201	Computer and Console Operations	6,227	
140203	Programmers	5,481	
140299	Other Business Data Processing	3,719	
140300	Filing, Office Machines	3,845	
140400	Information, Communication Occupations	520	
140500	Materials Support	100	
140600	Personnel Training and Relations	696	
140700	Steno, Secretarial and Related Occupations	11,279	
140800	Supervisory and Administrative Management	1,269	
140900	Typing and Related Occupations	39,601	
149900	Other Office Occupations	7,604	
140000	TOTAL		99,844
160000	Technical Occupations		989
170000	Trade and Industrial		3,153
TOTAL OCCUPATIONAL PREPARATION			106,577

*Detailed = 2 digit OE Code
**Major = 6 digit OE Code

TABLE 14
Fiscal Year 1984

NON CHAPTER 74 SECONDARY ENROLLMENTS BY MAJOR PROGRAM AREA
(With Detailed Breakdown for Office Occupations and Consumer/Homemaking)

Occupational Preparation Programs

	USOE Code and Title	1983-1984 Detailed Program* Enrollment	1983-1984 Major Program** Enrollment
090101	Comprehensive Homemaking	6,506	
090101	Care and Guidance of Children	4,771	
090103	Clothing and Textiles	4,580	
090104	Consumer Education	1,099	
090105	Family Health	1,501	
090106	Family Living and Parenthood	3,043	
090107	Food and Nutrition	13,470	
090108	Home Management	250	
090109	Housing and Home Furnishing	300	
090199	Other Homemaking	2,050	
090100	TOTAL		37,570
TOTAL ALL PROGRAMS:			144,147

*Detailed = 2 digit OE Code

**Major = 6 digit OE Code

TABLE 15
Fiscal Year 1984

OTHER POSTSECONDARY/ADULT PUBLIC SCHOOL ENROLLMENTS
BY MAJOR PROGRAM AREA

	USOE Code and Title	1983-1984 Enrollments
010000	Agriculture	1,193
040000	Distributive Education	-0-
070000	Health Occupations	329
090200	Occupational Consumer and Homemaking	1,138
090100	Consumer and Homemaking (Not Occupational)	3,819
140000	Office Occupations	3,461
160000	Technical Occupations	683
170000	Trade and Industrial	4,412
990000	Other (Not Classified Above)	2,783
	TOTAL	17,818

TABLE 16

Fiscal Year 1984

COMMUNITY COLLEGE DAY SCHOOL ENROLLMENTS
AND COMPLETERS BY DETAILED PROGRAM

USOE Code and Title		# of Programs		# of Students	
		Associate Degree	Certificate	1983-84 Enrollments	1983-84 Completers
010100	Agriculture Production	1	-	32	
010500	Ornamental Horticulture	2	-	67	20
SUBTOTAL AGRICULTURE		3	-	- 99	20
040200	Apparel & Accessories	1		33	11
040700	Food Services	2	1	255	52
040800	General Merchandise	4	-	410	107
041100	Hotel and Lodging	3	-	395	76
041700	Real Estate	1	-	2	1
041800	Recreation & Tourism	2	1	210	42
SUBTOTAL DISTRIBUTIVE		13	2	1305	289
070101	Dental Assisting	-	3	72	48
070102	Dental Hygiene	5	-	215	96
070103	Dental Laboratory Technology	2	1	76	25
070203	Medical Laboratory Assisting	4	-	150	60
070301	Nursing (Associate Degree)	12	1	1776	793
070399	Nursing, Other	1	-	43	16
070400	Rehabilitation	5	-	217	91
070501	Radiologic Technology	7	-	293	113
070800	Mental Health Technology	4	-	215	58
070903	Inhalation Therapy	4	-	215	51
070904	Medical Assistant	2	-	140	45
079900	Health Occupations Education, Other	7	1	222	57
SUBTOTAL HEALTH		53	6	3593	1475
090201	Care & Guidance of Children	8	1	666	202
090203	Food Management, Production & Services	2	-	94	11
SUBTOTAL OCCUPATIONAL-PREPARATION CONSUMER & HOMEMAKING		10	1	760	213

TABLE 16

Fiscal Year 1984

COMMUNITY COLLEGE DAY SCHOOL ENROLLMENTS
AND COMPLETERS BY DETAILED PROGRAM

USOE Code and Title		# of Programs		# of Students	
		Associate Degree	Certificate	1983-84 Enrollments	1983-84 Completers
140100	Accounting & Computing	6	-	650	113
140203	Programmers	6	-	1310	255
140299	Business Data Processing Systems Occupations, Other	6	-	1196	224
140400	Information Communication Occ.	2	-	96	25
140700	Stenographic, Secretarial & Related Occ.	30	6	3029	677
140800	Supervisory and Administrative Management Occ.	19	1	3760	947
140900	Typing & Related Occ.	-	3	74	17
SUBTOTAL OFFICE OCCUPATIONS		69	10	10115	2258
160104	Automotive Technology	2	-	63	6
160106	Civil Technology	4	-	73	13
160107	Electrical Technology	2	-	70	14
160108	Electronic Technology	9	3	1037	244
160109	Electromechanical Technology	4	-	500	124
160110	Environmental Control Technology	4	-	122	37
160111	Industrial Technology	1	-	10	3
160113	Mechanical Technology	1	-	28	0
160602	Fire & Fire Safety Technology	3	-	64	27
160605	Police Science Technology	9	-	837	183
169900	Other Technical Education	24	3	1288	321
SUBTOTAL TECHNOLOGY		63	6	4092	858

TABLE 16

Fiscal Year 1984

COMMUNITY COLLEGE DAY SCHOOL ENROLLMENTS
AND COMPLETERS BY DETAILED PROGRAM

USOE Code and Title		# of Programs		# of Students	
		Associate Degree	Certificate	1983-84 Enrollments	1983-84 Completers
170700	Commercial Art Occupations	2	-	119	19
171300	Drafting	1	2	111	40
171900	Graphic Arts Occupations	3	-	242	61
172302	Machine Shop	1	-	35	11
172602	Cosmetology	-	1	26	16
SUBTOTAL TRADE AND INDUSTRY		7	3	533	148
GRAND TOTAL		218	28	20497	5374

Note: Data from Mt. Wachusett Community College and Roxbury Community College have not yet been received.

TABLE 17

Fiscal Year 1984

COMMUNITY COLLEGE CONTINUING EDUCATION ENROLLMENT
BY MAJOR PROGRAM AREA

USOE Code and Title		1983-84 Enrollments
010000	Agriculture	0
040000	Distributive Education	385
070000	Health Occupations	732
090000	Occupational Consumer & Homemaking	148
140000	Office Occupations	5309
160000	Technical Occupations	1790
170000	Trade and Industry	105
TOTAL		8469

TABLE 18

ONE YEAR FOLLOW-UP STUDY OF JUNE 1983 CHAPTER 74 GRADUATES

USOE CODE	TITLE		TOTAL COMPLETERS	MILITARY	EMPLOYED RELATED	EMPLOYED NONRELATED	ADDITIONAL EDUCATION	UNEMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN	AVERAGE HOURLY SALARY* MALE	AVERAGE HOURLY SALARY* FEMALE
	Agricultural	Sec	81	1	25	13	14			28	4.34	3.78
010100	Production	Postsec	44		24	8	4		2	6	4.50	5.24
	Agricultural	Sec	17		1	2	2		1	11		
010200	Supplies/Services	Postsec										
	Agricultural	Sec	18	2	4	4	1			7	4.65	
010300	Mechanics	Postsec										
		Sec	120	2	32	11	19	2	1	53	5.22	4.12
010500	Horticulture	Postsec	27		16	4	3	1		2		4.20
	Agricultural	Sec	18	1	3	2	12					
010600	Resources	Postsec	25		8	5	6	1	1	4	5.00	
		Sec	32	3	10	1	8			10	4.85	
010700	Forestry	Postsec										
		Sec	30	1	6	6	3	3	2	9		
019900	Other Agricultural	Postsec	20	1	12	3	1			3	5.75	5.75
	Apparel and	Sec										
040200	Accessories	Postsec	14		9	3	1			1		4.20
	Finance and	Sec	7		5	2						
040400	Credit	Postsec				2						
040700	Food Services	Sec	53	1	14	5	4			29	4.31	4.55
		Postsec										
	General	Sec	1554	60	459	200	243	44	37	501	4.77	4.38
040800	Merchandising	Postsec										
	Hotel and	Sec	4			3	1					
041100	Lodging	Postsec										

* Average hourly salary is computed for graduates employed at least 35 hours per week in a related field.

TABLE 18

ONE YEAR FOLLOW-UP STUDY OF JUNE 1983 CHAPTER 74 GRADUATES

USOE CODE	TITLE		TOTAL COMPLETERS	MILITARY	EMPLOYED RELATED	EMPLOYED NONRELATED	ADDITIONAL EDUCATION	UNEMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN	AVERAGE HOURLY SALARY MALE	AVERAGE HOURLY SALARY FEMALE
	Dental	Sec	3		1		1			1		5.10
070101	Assisting	Postsec	87		53		1	5	1	27		5.31
	Medical Lab	Sec										
070203	Assistant	Postsec	9		5		4				6.50	6.50
	Other Medical	Sec	1	1						2		
070299	Lab Technician	Postsec	5	4						1		5.80
		Sec										
070302	Practical Nursing	Postsec	406	1	278	5	3	6	5	108	5.66	6.57
		Sec	183	1	73	20	27	1	5	56		4.47
070303	Nursing Aide	Postsec	60		33	3	4	1	4	15		4.36
	Operating Room	Sec										
070305	Technician	Postsec	44		17	3	3	2	1	19	5.75	5.39
		Sec										
070399	Other Nursing	Postsec										
		Sec										
070600	Ophthalmic	Postsec	9		6					3	7.50	7.50
		Sec	16		7	1	2			6		5.25
070904	Medical Assistant	Postsec	109		61	10	2	11		25		5.28
	Community	Sec	202		55	21	47		2	77		4.07
070906	Health Aide	Postsec										
	Other	Sec	10							10		
079900	Health Education	Postsec										
	Care & Guidance of	Sec	168		21	35	42	4	3	63		4.32
090201	Children	Postsec										
	Clothing Management	Sec	53		6	3			1	43		4.00
090202	Production/Services	Postsec										
	Food Management	Sec	53	4	10	3	6			30	6.50	5.06
090203	Production & Services	Postsec	4		2		1			1	4.00	4.75

TABLE 18

ONE YEAR FOLLOW-UP STUDY OF JUNE 1983 CHAPTER 74 GRADUATES

USOE CODE	TITLE		TOTAL COMPLETERS	MILITARY	EMPLOYED RELATED	EMPLOYED NONRELATED	ADDITIONAL EDUCATION	UNEMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN	AVERAGE HOURLY SALARY MALE	AVERAGE HOURLY SALARY FEMALE
	Institution & Home	Sec	32		1	3	1			27		5.35
090205	Management	Postsec										
	Other Occupational	Sec	5			2	1		1	1		
090299	Prep. Homemaking	Postsec										
	Architectural	Sec	19		4	1	1			13	5.01	
160101	Technology	Postsec	25		17	1	3		1	3	6.52	9.07
	Chemical	Sec	10		2					8	6.25	
160105	Technology	Postsec										
		Sec										
160106	Civil Technology	Postsec	14		8	1	3			2	7.20	
		Sec										
160107	Electrical Technology	Postsec	9		9							
	Electronic	Sec	8	1		1	3			4		
160108	Technology	Postsec	60	2	44	0	1			13	7.20	7.25
	Electro Mechanical	Sec	16		5	1				10	5.26	4.65
160109	Technology	Postsec	30		23		3			4	7.92	
	Postsecondary	Sec										
160114	Metallurgy	Postsec	39	1	35		2			1	8.50	8.50
	Scientific	Sec	17	1	4	1	5			6		5.02
160117	Data Processing	Postsec										
		Sec	405	4	92	33	67	2		207	5.88	5.06
160401	Programmer	Postsec	142		77	9	10	2		43	6.52	6.84
	Other Technical	Sec	82		21	1	5			55		5.40
169900	Education	Postsec	407		62	14	29	10	3	286		
	Air	Sec	146	8	26	21	12	4		75	5.16	
170100	Conditioning	Postsec	21	1	12	1		1		6	8.12	
	Appliance	Sec	63	4	15	7	1	6		30	5.43	
170200	Repair	Postsec	1		1							

TABLE 18

ONE YEAR FOLLOW-UP STUDY OF JUNE 1983 CHAPTER 74 GRADUATES

USOE CODE	TITLE		TOTAL COMPLETERS	MILITARY	EMPLOYED RELATED	EMPLOYED NONRELATED	ADDITIONAL EDUCATION	UNEMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN	AVERAGE HOURLY SALARY MALE	AVERAGE HOURLY SALARY FEMALE
		Sec	349	12	99	37	6	4	6	185	5.01	
170301	Auto Body	Postsec	11		6					4	4.58	
		Sec	817	53	290	90	46	15	8	315	5.01	5.45
170302	Auto Mechanics	Postsec	10		3					7	5.08	
		Sec	198	3	33	30	43	4	3	82	4.18	4.90
170700	Commercial Art	Postsec	31		12	2	1	1		15	5.61	5.03
	Commercial	Sec	5		2	1				2		
170900	Photography	Postsec										
		Sec	729	39	250	66	29	6	4	335	4.99	5.25
171001	Carpentry	Postsec	5	1						4	5.50	
		Sec	274	17	114	33	10	10		90	5.01	4.00
171002	Electricity	Postsec	8		4					4	6.00	
	Heavy	Sec	27	1	3				1	22	4.21	
171003	Equipment	Postsec										
		Sec	63	2	19	3	3	2	1	33	5.94	
171004	Masonry	Postsec										
	Painting &	Sec	144	6	21	37	4	8	4	64	4.78	5.46
171005	Decorating	Postsec	2		1	1					6.00	
	Plumbing &	Sec	250	10	61	12	8	11		148	5.05	5.65
171007	Pipefitting	Postsec	2		2						5.63	
	Other Construction	Sec	99	3	27	14	5	3		47	4.51	
171099	& Maintenance	Postsec										
	Custodial	Sec	4							4		
171100	Services	Postsec										
	Diesel	Sec	62	3	27	2	3	1		26	5.23	4.75
171200	Mechanics	Postsec	22		8		1			13	6.94	
		Sec	359	21	74	48	46	5	3	161	5.49	6.35
171300	Drafting	Postsec	2		1					1		

TABLE 18

ONE YEAR FOLLOW-UP STUDY OF JUNE 1983 CHAPTER 74 GRADUATES

USOE CODE	TITLE		TOTAL COMPLETERS	MILITARY	EMPLOYED RELATED	EMPLOYED NONRELATED	ADDITIONAL EDUCATION	UNEMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN	AVERAGE HOURLY SALARY MALE	AVERAGE HOURLY SALARY FEMALE
	Electrical	Sec	336	18	114	25	18	2	4	154	5.15	
171400	Occupations	Postsec	1							1		
		Sec	607	38	140	54	114	13	4	244	5.26	4.60
171500	Electronics	Postsec	15	1	9		5				5.72	
		Sec	520	17	177	75	35	18	9	189	4.84	4.55
171900	Graphic Arts	Postsec	4				2			2		
	Instrument	Sec	2			1				1		
172100	Maintenance & Repair	Postsec										
	Maritime	Sec	40	2	4	3	1			30	6.11	
172200	Occupations	Postsec										
		Sec	724	32	225	81	35	16	8	327	5.58	4.63
172302	Machine Shop	Postsec	8		5					3	4.80	6.48
		Sec	184	14	70	16	7	5	1	71	5.66	5.00
172305	Sheet Metal	Postsec	5		4	1					7.00	
		Sec	112	3	23	16	3	1		66	5.99	
172306	Welding	Postsec	15		12	1	1			1	9.36	
	Other Metal	Sec	219	13	70	30	11	7		88	5.45	3.50
172399	Occupations	Postsec										
		Sec	7		2					5	5.25	
172400	Metallurgy	Postsec										
		Sec	393	2	99	56	16	14	4	202	4.28	4.06
172602	Cosmetology	Postsec	96		39	11	1	2	2	41		3.98
		Sec	22			6		1	1	14		
172700	Plastics	Postsec										
	Quantity	Sec	490	18	135	52	53	16	5	212	4.77	3.98
172900	Food	Postsec	49	1	32	4	2	1	1	8	5.62	5.03
		Sec	34	1	5	3	1	1		23	3.88	
173100	Small Engine	Postsec										
	Stationary	Sec	18	1	2					15	7.00	
173200	Energy Sources	Postsec										

TABLE 18

ONE YEAR FOLLOW-UP STUDY OF JUNE 1983 CHAPTER 74 GRADUATES

USOE CODE	TITLE		TOTAL COMPLETERS	MILITARY	EMPLOYED RELATED	EMPLOYED NONRELATED	ADDITIONAL EDUCATION	UNEMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN	AVERAGE HOURLY SALARY MALE	AVERAGE HOURLY SALARY FEMALE
	Textile	Sec	33		7	5	1	2	1	17		
173300	Production	Postsec	2							2		
		Sec	25		3	1	1			20	4.25	4.48
173500	Upholstering	Postsec										
		Sec	217	12	69	39	14	7		76	4.53	
173600	Woodworking	Postsec	3		1	2					4.50	

Table 19

Fiscal Year 1984

Priority Populations Served In Chapter 74 Secondary Programs
(by Major Program Area)

		Male Enrollment				Female Enrollment				Total Enrollment	
USOE Code and Title		Total	Minority	Disadvantaged	Handicapped	Total	Minority	Disadvantaged	Handicapped	First Language Not English*	Limited English Proficient*
010000	Agriculture	875	59	139	153	469	52	72	41	30	2
040000	Distributive Education	1,196	103	259	188	2,186	156	462	217	86	29
070000	Health	73	12	52	35	1,670	260	405	182	127	46
090200	Consumer and Homemaking	166	10	55	58	1,304	156	209	129	121	13
160000	Technical	719	24	105	34	1,079	76	189	31	90	16
170000	Trade and Industrial	25,661	2,623	5,549	4,762	5,895	821	1,188	815	2,044	540
	TOTALS	28,690	2,831	6,159	5,230	12,603	1,521	2,525	1,415	2,498	646

* Includes male & female enrollment

A. State Chapter 74 Monitoring and Evaluation Process

1. State Chapter 74 Monitoring Process: During fiscal year 1984 the goal of the Division of Occupational Education was to formally monitor all operational Chapter 74 programs. Programs were monitored by means of desk audits and on-site reviews. This dual system approach achieved three results: (1) updating the Chapter 74 monitoring file, (2) noting any changes or variations in the operation of programs, and (3) determining any actions that should be taken regarding compliance issues and/or problem areas. This process was instituted during fiscal year 1976 and has continued each fiscal year.

   Prior to initiating the monitoring process, a Chapter 74 program listing by school district was compiled from information gathered during the previous year. Information from prior years was further validated by comparing it with the school district's End of the Year Report and, when necessary, the October 1st Enrollment Report. Based on Chapter 74 approval factors, standardized monitoring instruments were sent to each school district with a memorandum of explanation. The superintendent and the occupational education coordinator were informed of this process. Throughout the process, on-going technical assistance was available to school districts on request. When the completed instruments were received at the regional center, they were reviewed for accuracy and compliance with Chapter 74 regulations.

   During fiscal year 1984, 72 school districts operating Chapter 74 programs were monitored on-site in accordance with the Operational Plan. In addition to observing the programs in operation, monitoring instruments were reviewed and validated. The Occupational Education Team Leader coordinated the on-site visits through the occupational education liaison and the superintendent's office. Furthermore, if necessary, the team leader was responsible for organizing the team of professionals needed to review the programs. At the end of the monitoring process, the Division of Occupational Education was informed of the updated status of each region's Chapter 74 programs through a submitted report.

2. State Chapter 74 Evaluation Process In accordance with the State Department's Operational Plan, Chapter 74 program evaluations were conducted in 13 school districts. A goal of the evaluation process was to document compliance with Chapter 74 regulations in selective secondary schools. A secondary goal was to concentrate on those comprehensive school districts in the region operating one or more Chapter 74 programs.

B. Federal P.L. 94-482 Monitoring and Evaluation Process: The effectiveness of Public Law 94-482 vocational education projects was evaluated through the completion of progress reports and on-site visits. During fiscal year 1984 a total of 812 Quarterly Progress Reports and 428 Final Reports were processed by Department of Education staff. Progress in achieving stated objectives as well as enrollment and financial data was reported. The sequence of the monitoring process is outlined as below:

1. Award of Federal Funds Agreement Letter: Immediately after school district grant projects are formally approved by the Board of Education at their monthly meeting, school districts are sent Letters of Agreement to be signed and returned. Once the signed letters are returned, funds are released in accordance with a system of payment depending on the amount of the grant. Copies of the unsigned letters are sent to the Regional Center and school districts. In addition, the Regional Center is sent a monthly progress report on the status of the disseminated Letters of Agreement. If the letters have not been returned as expected, the school districts are contacted by the Regional Center.

2. Project Underway Form (Start-up Letter): The school district is instructed to complete the Project Underway Form to inform the Division of Occupational Education that the program is in the process of delivering services to students in accordance with stated objectives. When this letter is received, additional funds are released. This procedure can indicate any possible problems in the implementation of the project. Project Underway Forms are submitted to the Regional Center, processed, and sent to the Central Office.

3. Quarterly Progress Reports: The school district is required to complete and submit two Quarterly Progress Reports. The first Report must be completed in total, with the second report an update of the first. The report measures project expenditures against approved budgets, and enrollment figures in relationship to those projected to be served. These reports are submitted to the Regional Center where they are processed and sent to the Central Office with recommendations.

4. Project Line Item Change Request: During the fiscal year of the project, school districts are given an opportunity to amend each project through submission of a line-item change request. Such requests are submitted to the Regional Center, processed, and sent to the Central Office.

5. Project Extension Request: If the school district cannot implement the objectives of a project during the fiscal year, it may request an extension of time deemed necessary to complete the project. These requests are submitted to the Regional Center, reviewed, and sent to the Central Office.

6. Project Remediation Plan: When a review of submitted reports reveals that a project is not meeting its projected enrollment objectives (less than 75% of projections as a standard), action is taken. The school district is sent an Enrollment Remediation Plan Form to be completed and returned within 60 days. In this plan the school district is requested to document its strategies in resolving the enrollment deficiency. The Plan is submitted to the Regional Center, processed, and sent to the Central Office with recommendations. Central Office action is communicated to the Regional Center, and school districts are informed of the status of their submitted plan of action.

7. Project Final Program/Financial Report: Upon completion of the project a Final Program/Financial Report is mailed to the school district. The school district is given 30 days to complete the report. When received, the reports are recorded and sent to the central office for processing.

All reports identified in the monitoring process are put on file in the Regional Center's project file and Central Office master file. In addition, any related correspondence is kept on file at both locations.

Federal P.L. 94-482 Evaluation Process. Each year a percentage of approved federal projects are evaluated on-site by the regional staff to validate project information stemming from the monitoring process. An explanation of the evaluation process follows:

1. During the summer, in accordance with the Operational Plan, a listing of school districts and federal projects identified for on-site evaluation is compiled. Approximately 271 school districts were monitored on-site. During the on-site evaluation of fiscal year 1984 projects, progress was reviewed, as well as compliance with assurances. The evaluation process takes place throughout the fiscal year.

2. The Occupational Education Team meets during the first part of September to establish an evaluation schedule and to designate appropriate responsibilities. The Occupational Education Team meets to discuss the evaluation process.

3. School districts selected for evaluation are formally notified of the on-site evaluation dates and, if necessary, adjustments are made. Evaluation teams are assigned to the school districts.

4. On the day scheduled for the on-site evaluation, evaluation instruments for each evaluated project are completed. A summary report is written and sent to the school district for response. Copies of the summary reports are sent to the Central Office for review. If there are any noted problems and/or compliance issues that need immediate attention, action is taken. All information is placed in project files.

5. Use of Evaluation Results to Improve Programs

A major purpose of the on-site evaluation is to make recommendations for program improvement. The following examples illustrate ways in which the evaluation process led to improved programs.

Microcomputers in the Classroom, Marlboro Public Schools

This program trained 142 disadvantaged and handicapped students in word processing, computerized accounting, and recordkeeping. The evaluation results included recommendations about individual items of computer software, as well as suggestions about developing a strategy for inservice teacher training.

The changes were implemented by the school, with rather dramatic results. The project has received the support of the local school district and 90% of the program costs are now funded by the Marlboro Public Schools budget. The project has also been recommended for a national technology award.

Welding and Metal Fabrication, Gateway Regional School District

This project was originally funded in fiscal year 1983 as a support project for handicapped students in grades 10-12. P.L.94-482 funds provided an instructor to assist these students in succeeding in a woods/metal entry-level skill-training program, with major emphasis on welding.

A vocational needs survey conducted at the high school in response to the suggestion of the monitoring team indicated a broader skill-training need within that population. It was agreed that these funds could be better spent by establishing a welding/metal fabrication program available to all students. In fiscal year. P.L. 94-482 funds were requested for this purpose and this program is now in place.

Cable Television: Industry for the 80's II, Lawrence Public Schools

This program was designed to provide an alternative occupational education program for potential dropouts. Students receive training in entry-level skills to prepare them for employment in the growing Cable Television and media production companies.

It was noted during the on-site evaluation that the shop area which housed equipment and also served as a classroom was too small to accommodate the program comfortably. During the summer vacation, a newly renovated classroom was converted into a studio, providing a more realistic learning environment. In addition to the studio, the program has access to another room which provides space for equipment repair, editing, and storage of equipment.

Due to the popularity of the program, enrollments have increased. Four students are currently working after school with the local Cable Television station producing a show, including video taping, editing,

and script writing under the supervision of a teacher. This activity provides the Cable Televsion company an opportunity to evaluate students' abilities and progress. At the conclusion of the third year of training (FY85), indications are that employment opportunities will be excellent. A positive evaluation provided an impetus to further pursue pending negotiations with the Televison station in acquiring a modulator to enhance the program, at the time of the contract renewal.

Computer Maintenance, Oxford Public Schools

This program was designed to train students in computer maintenance and repair. The on-site evaluation identified several program deficiencies including severe overcrowding, lack of program definition and curriculum. The Computer Maintenance Program had no business/industry involvement, no incoming computer repair work and no location for related training. As a result of the program evaluation and follow-up with the project director and school system superintendent, the following changes were implemented:

1. The number of regular day electronic classes was increased from four to five, resulting in projected class enrollments for the 1984-85 school year of nine students per class. The Computer Maintenance Class will have 10 students and the total for the shop will not exceed 19, thus affecting a 37% reduction in class size.

2. Digital Equipment Corporation was contacted to aid in developing a computer repair facility. Digital provided teacher-training, aid in curriculum development, and computer repair equipment.

3. Through negotiations with Digital, over 200 Rainbow and Robin microcomputers were given through corporate grants to school districts belonging to the French River Teachers Center. Through agreements with each school district member, the Computer Maintenance students will be responsible for all microcomputer system repairs.

4. A related classroom was provided within a short distance from the electronics/computer maintenance classroom.

Distributive Education for Handicapped Students, Pittsfield Public Schools

This project was designed to expand vocational skill-training options for 20 handicapped students in a substantially separate program offered at Pittsfield's Alternate School. A full-time instructor was hired to set up a school store, supervise students in its operation, and develop special retailing projects. As the year progressed, monitoring visits documented that the size of the Alternate School was inadequate to support a school store that could provide proper, diverse training opportunities for this number of students. Only one-fourth of the population targeted was actually involved with the store, the rest being primarily involved in theory related to Distributive Education: accounting, business math and related English.

As a result of evaluations, this program was discontinued in 1984-85, and replaced by a project which mainstreams a percentage of Alternate School students on a rotating basis into 4 shops at Taconic High School: machine technology, metal fabrication, autobody and auto mechanics. A support instructor works with these students to modify curriculum and provide 1:1 attention. This new project is successful in increasing access to vocational education for this population and appears to be facilitating a transition from a substantially separate to a mainstream learning environment, as the Distributive Education project could not.

6. Planning

The Division of Occupational Education required the completion of a comprehensive local plan by local school systems desiring federal funds to supplement (not supplant) local and state resources in addressing their established needs in vocational education. The purpose of the local plan was to address the Board of Education approved goals and objectives in vocational education set forth in the five-year State Plan for fiscal years 1983-1987.

Planning strategies on the local level included: (1) determining existing enrollment patterns and success in placement by collecting annual vocational education student enrollment and follow-up data for submission to the State Department of Education; (2) determining employment needs by examining local labor market information to identify occupations with anticipated employment opportunities; and (3) determining programs to be offered by considering the existing enrollments and the needs of priority populations (handicapped, disadvantaged, limited English proficiency, females in nontraditional areas), and designing curricula and programs to address employment needs using available resources.

The results of the local planning effort included: (1) providing students with quality vocational education programs leading to realistic employment opportunities; (2) coordinating local training resources to meet students needs; (3) improving the process for the distribution of federal programs; (5) consolidating and reducing paperwork; (6) establishing a realistic relationship between local needs and statewide strategies; and (7) encouraging coordination among vocational education delivery systems.

7. Enrollments

Tables 12 to 17 describe fiscal year 1984 enrollments and number of completers in vocational programs:

- Table 12 shows overall statewide enrollments by major program area and educational level.

- Table 13 gives Chapter 74 secondary enrollments and number of completers by detailed program area and type of school.

- Table 14 provides Chapter 74 postsecondary (day program) enrollments and number of completers by detailed program area and type of school.

- Table 15 shows non-Chapter 74 secondary enrollments by major program area.

- Table 16 gives other postsecondary/adult public school enrollments by major program area.

- Table 17 provides community college (day school) enrollments and number of completers by detailed program area.

8. Student and Employer Follow-Up

Three types of student and employer follow-up were conducted during Fiscal Year 1984:

A. Employment Status of Secondary and Postsecondary Student Completers (within one year after completion)

B. Placement of Secondary Student Completers of Chapter 74 Programs (immediately upon graduation)

C. Postsecondary Completer/Leaver and Employer Satisfaction Surveys

A. Employment Status of Secondary and Postsecondary Student Completers

Table 18 shows the numbers of completers in each of the following categories: military, employed in field related to training , employed in field not related to training, pursuing additional education, unemployed, not in labor force, and status unknown. This information is given separately for each type of program. This data was provided by students who responded to a survey mailed to them in the spring of 1984 - approximately one year after their graduation from a Chapter 74 program. Table 18 also shows the average starting salaries for students in each program.

B. Placement of Secondary Student Completers of Chapter 74 Programs

The Division of Occupational Education conducted a special survey of 59 secondary schools (those schools with five or more Chapter 74 programs). Schools were asked to provide information about the placement of 1983-84 student completers immediately upon graduation.

Table 19 shows the numbers and percentages of completers in each of the seven placement categories by major program area and overall. Table 20 gives the numbers and percentages of completers in each of the seven placement categories by specific Chapter 74 program. Figures 1A to 1G pictorially depict the information contained in Table 19.

Table 21 shows the placement of students by type of school (regional vocational-technical, vocational-agricultural, city and town vocational, or comprehensive high school). Figures 1H depicts overall placement by type of school for four of the seven employment status categories.

The main findings of this special placement survey included the following:

1. Overall, 61% of secondary students were placed in jobs related to their Chapter 74 training immediately upon graduation; of the other 39%,

   -5% were in the military

   -12% were placed in jobs not related to their training

   -12% were pursuing additional education

   -5% were unemployed

   -1% were not in the labor force

   -4% were of unknown employment status

   Therefore, 90% of these students were either placed in jobs or were pursuing additional education.

2. Placement rates varied extensively by specific type of Chapter 74 program, as illustrated in table 20. Currently, labor market information is being studied on a few selected occupations as one possible explanation (e.g., programs with poor related-job placement rates may represent occupational areas with little growth, or the number of students who complete these programs may exceed current estimated job openings).

3. Placement of students in jobs related to their training was highest for regional vocational-technical (65%) and city and town vocational schools (57%), and was lowest for comprehensive high schools (48%). Conversely comprehensive high schools reported a higher percentage of completers pursuing additional education (22%) than either regional vocational-technical (10%) or city and town vocational schools (11%).

TABLE 22

EMPLOYMENT STATUS OF 1983-84 COMPLETERS OF CHAPTER 74 PROGRAMS
BY MAJOR PROGRAM AREA AND OVERALL

Program Area	Number of Schools	Number of Completers	Placement of Completers: Military #	Military (%)	Employed RELATED Field #	Employed RELATED Field (%)	Employed NONRELATED Field #	Employed NONRELATED Field (%)	Pursuing Additional Education #	Pursuing Additional Education (%)	Unemployed #	Unemployed (%)	Not in Labor Force #	Not in Labor Force (%)	Status Unknown #	Status Unknown (%)
AGRICULTURE	14	235	10	4%	141	60%	12	5%	38	16%	10	4%	1	1%	23	10%
DISTRIBUTIVE EDUCATION	27	553	15	3%	337	61%	45	8%	101	18%	29	5%	9	2%	17	3%
HEALTH OCCUPATIONS	29	448	4	1%	248	55%	53	12%	100	22%	25	6%	6	1%	12	3%
OCCUPATIONAL PREPARATION HOMEMAKING	17	266	6	2%	146	55%	35	13%	46	17%	21	8%	8	3%	4	2%
TECHNICAL OCCUPATIONS	24	577	25	4%	271	47%	71	12%	152	26%	25	4%	3	1%	30	5%
TRADE AND INDUSTRY	55	7,540	428	6%	4,715	63%	906	12%	710	9%	406	5%	102	1%	273	4%
OVERALL	58	9,619	488	5%	5,858	61%	1122	12%	1147	12%	516	5%	129	1%	359	4%

EMPLOYMENT STATUS OF 1983-84 COMPLETERS

ALL PROGRAMS COMBINED

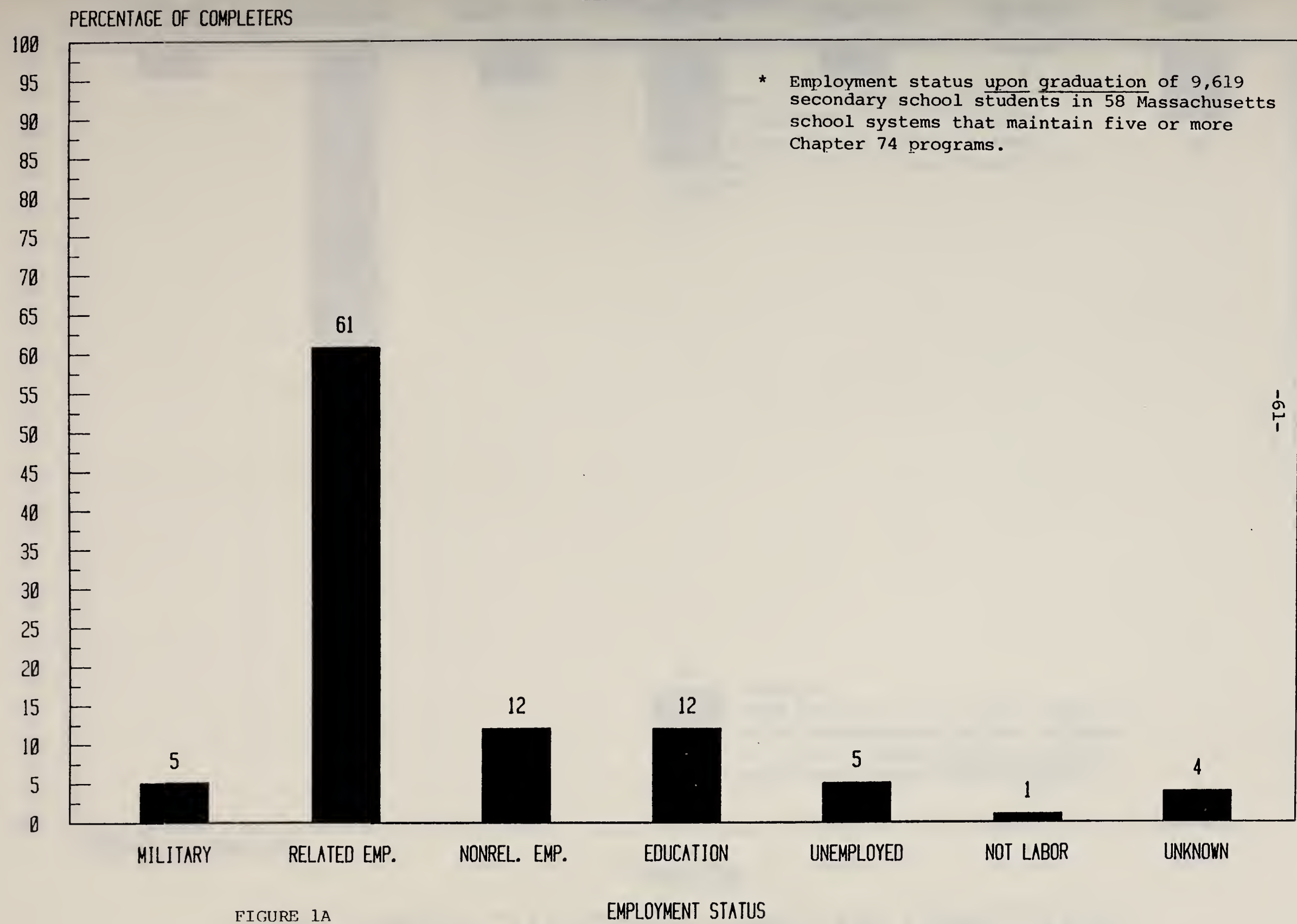
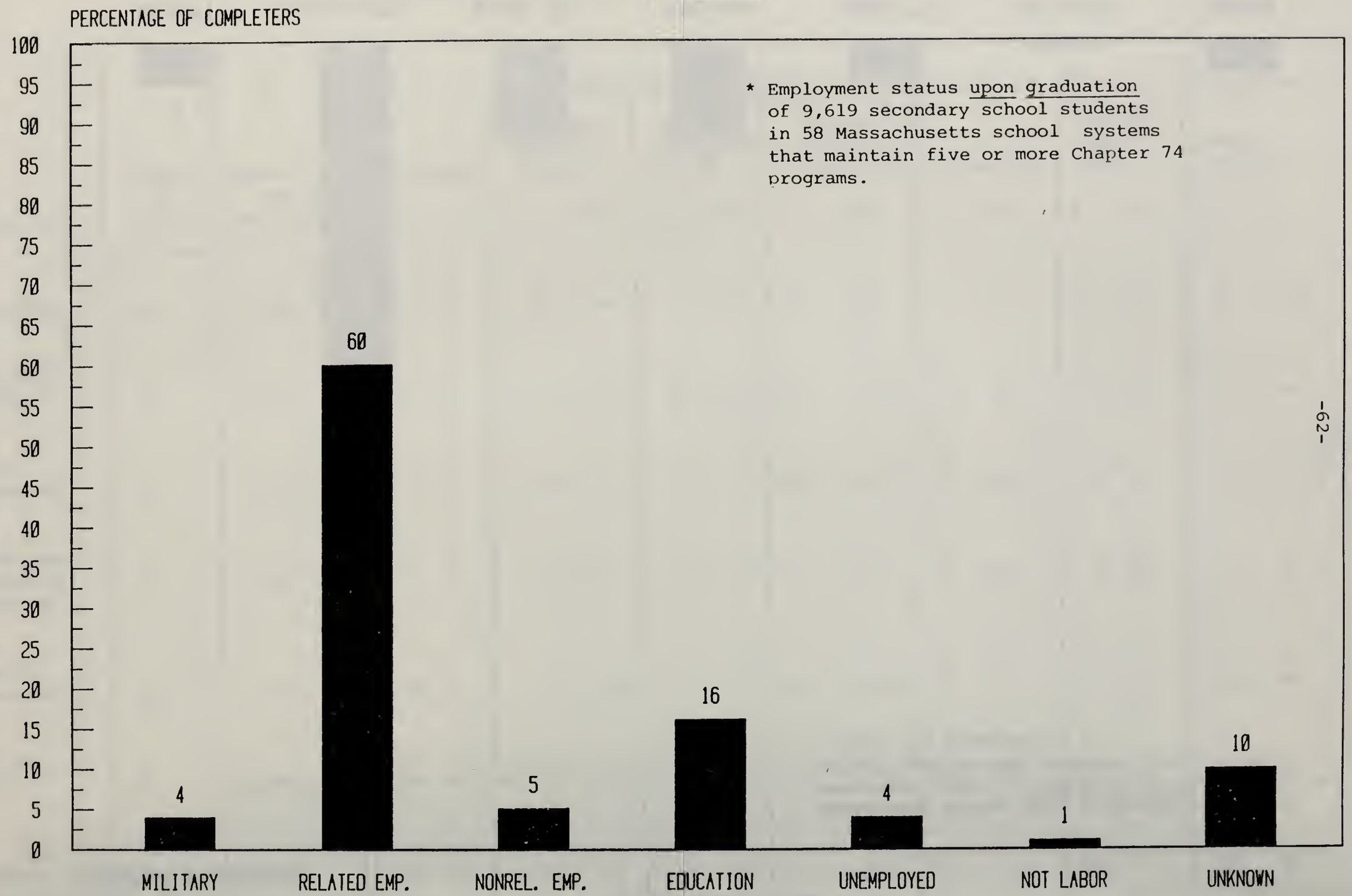


FIGURE 1A

EMPLOYMENT STATUS OF 1983-84 COMPLETERS

AGRICULTURE



* Employment status upon graduation of 9,619 secondary school students in 58 Massachusetts school systems that maintain five or more Chapter 74 programs.

FIGURE 1B

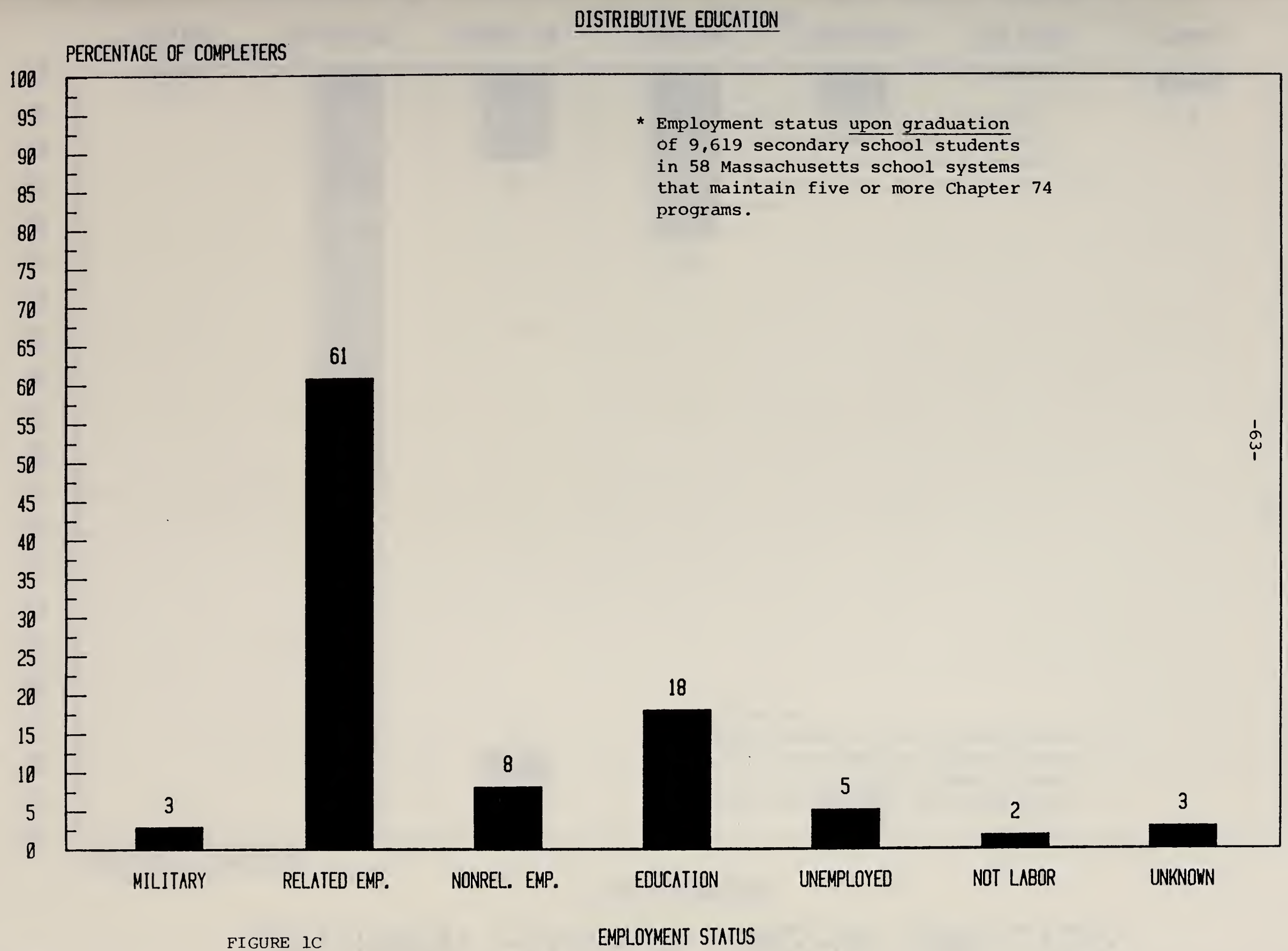
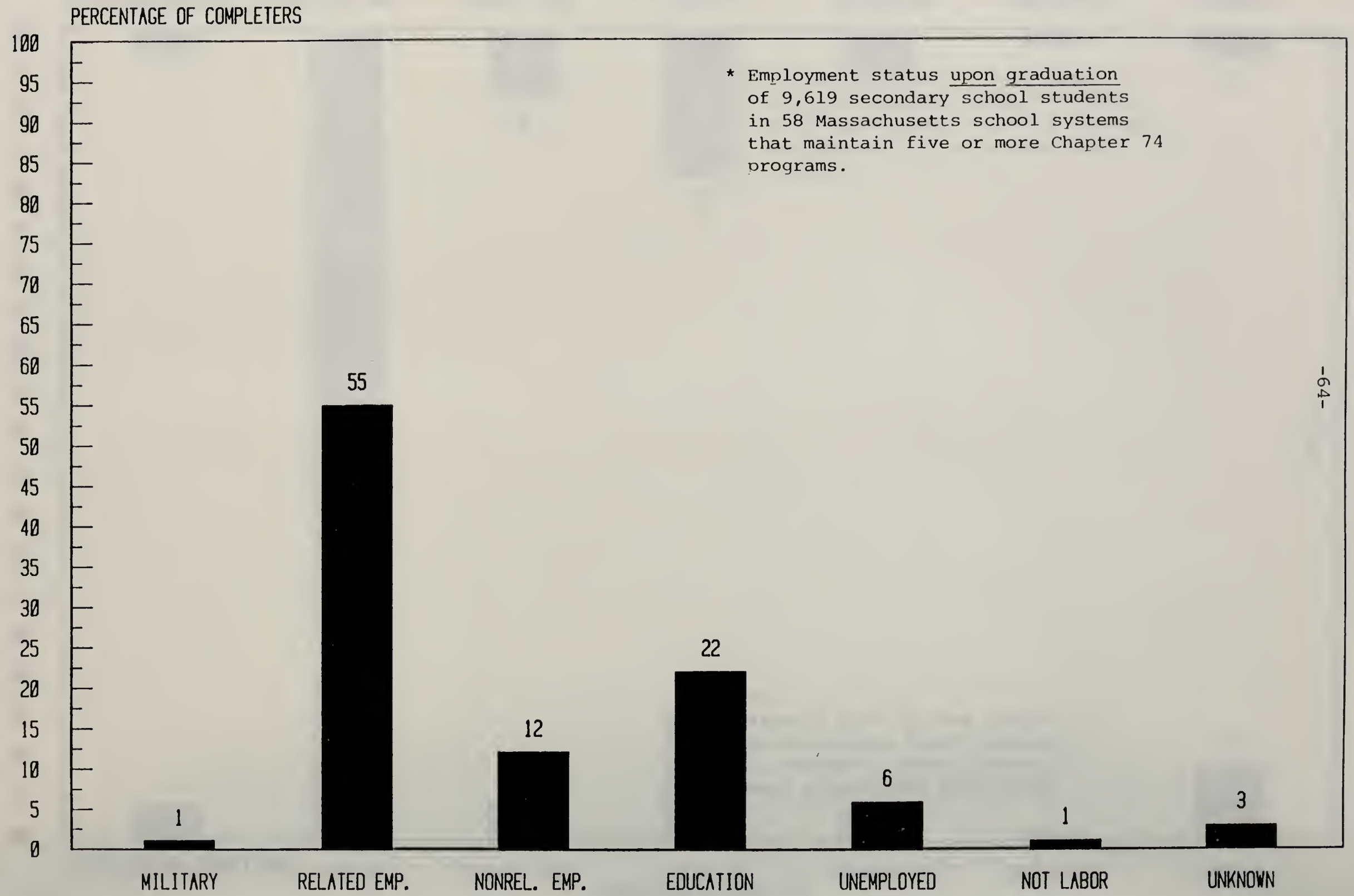

DISTRIBUTIVE EDUCATION
PERCENTAGE OF COMPLETERS
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
* Employment status upon graduation of 9,619 secondary school students in 58 Massachusetts school systems that maintain five or more Chapter 74 programs.
3
61
8
18
5
2
3
MILITARY
RELATED EMP.
NONREL. EMP.
EDUCATION
UNEMPLOYED
NOT LABOR
UNKNOWN
EMPLOYMENT STATUS

FIGURE 1C

EMPLOYMENT STATUS OF 1983-84 COMPLETERS*

HEALTH OCCUPATIONS



* Employment status upon graduation of 9,619 secondary school students in 58 Massachusetts school systems that maintain five or more Chapter 74 programs.

EMPLOYMENT STATUS OF 1988 CT COMPLETERS

OCCUP. PREP. HOMEMAKING

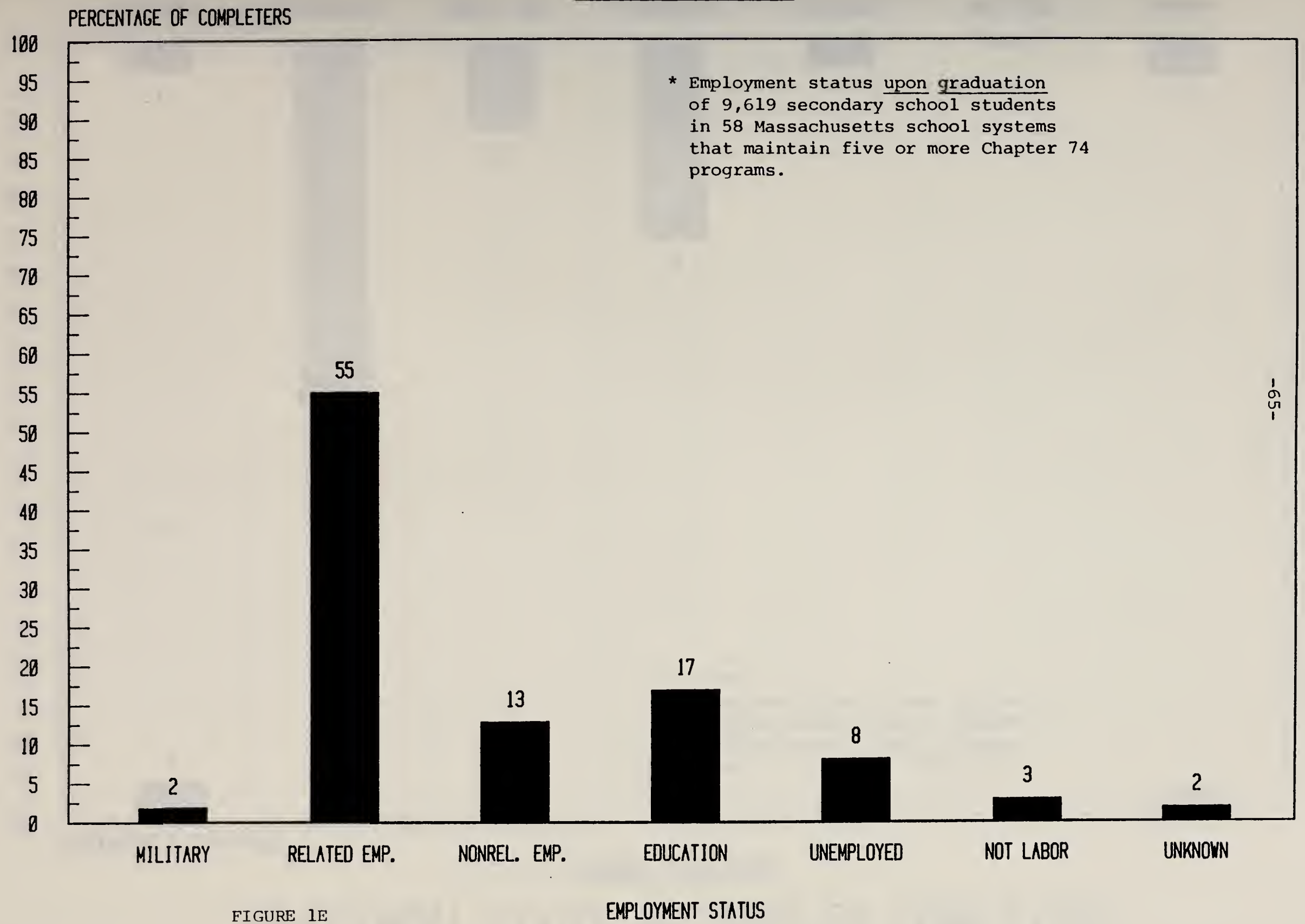
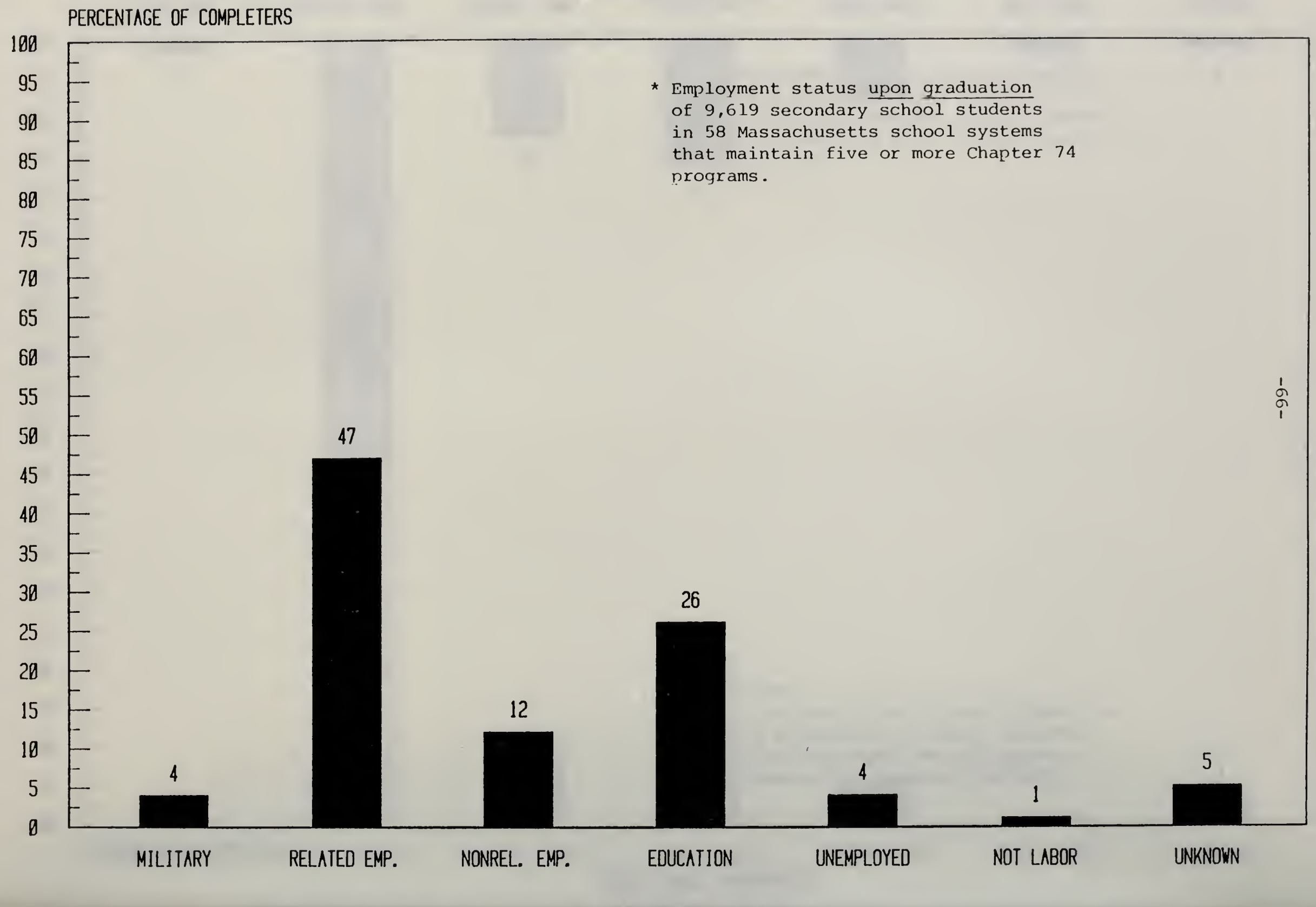


FIGURE 1E

EMPLOYMENT STATUS OF 1983-84 COMPLETERS *

TECHNICAL OCCUPATIONS



* Employment status upon graduation of 9,619 secondary school students in 58 Massachusetts school systems that maintain five or more Chapter 74 programs.

FIGURE 1E
EMPLOYMENT STATUS OF 1983-84 COMPLETERS

TRADE AND INDUSTRY

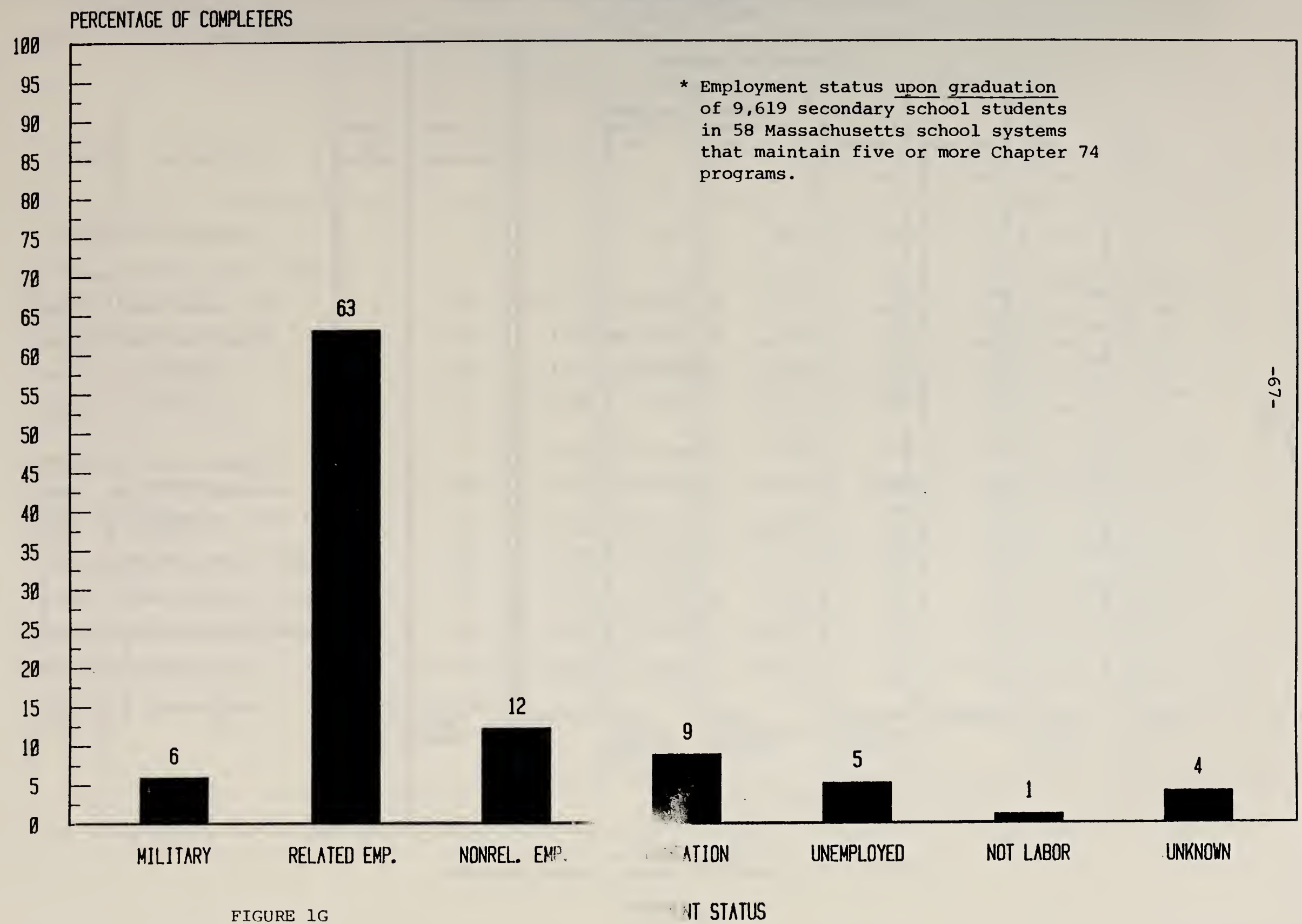


FIGURE 1G

Table 23

Employment Status of 1983-84 Completers of Ch. 74 Programs
by Specific Program

U.S.O.E. Code	Program Title	Number of Schools	Number of Completers	Placement of Completers: Military #	Military (%)	Employed RELATED Field #	Employed RELATED Field (%)	Employed NONRELATED Field #	Employed NONRELATED Field (%)	Pursuing Additional Education #	Pursuing Additional Education (%)	Unemployed #	Unemployed (%)	Not in Labor Force #	Not in Labor Force (%)	Status Unknown #	Status Unknown (%)
010100	Agricultural Production	4	62	3	(5%)	42	(68%)	4	(6%)	10	(16%)	3	(5%)	0	(0%)	0	(0%)
010101	Animal Science	1	8	0	(0%)	2	(25%)	1	(12%)	1	(12%)	0	(0%)	0	(0%)	4	(50%)
010500	Ornamental Horticulture	10	92	4	(4%)	49	(53%)	6	(7%)	15	(16%)	6	(7%)	0	(0%)	12	(13%)
010504	Landscaping	2	27	1	(4%)	21	(78%)	1	(4%)	0	(0%)	0	(0%)	0	(0%)	4	(15%)
010600	Agricultural Resources	1	19	0	(0%)	8	(42%)	0	(0%)	10	(53%)	0	(0%)	1	(5%)	0	(0%)
010700	Forestry	2	27	2	(7%)	19	(70%)	0	(0%)	2	(7%)	1	(4%)	0	(0%)	3	(11%)
040400	Finance & Credit	1	7	0	(0%)	1	(14%)	2	(29%)	4	(57%)	0	(0%)	0	(0%)	0	(0%)
040700	Food Services	4	51	0	(0%)	25	(49%)	7	(14%)	11	(22%)	7	(14%)	0	(0%)	1	(2%)
040800	General Merchandise	24	490	15	(3%)	307	(63%)	36	(7%)	86	(18%)	21	(4%)	9	(2%)	16	(3%)
041100	Hotel & Lodging	1	5	0	(0%)	4	(80%)	0	(0%)	0	(0%)	1	(20%)	0	(0%)	0	(0%)

Table 23

Employment Status of 1983-84 Completers of Ch. 74 Programs
by Specific Program

U.S.O.E. Code	Program Title	Number of Schools	Number of Completers	Placement of Completers: Military #	Military (%)	Employed RELATED Field #	Employed RELATED Field (%)	Employed NONRELATED Field #	Employed NONRELATED Field (%)	Pursuing Additional Education #	Pursuing Additional Education (%)	Unemployed #	Unemployed (%)	Not in Labor Force #	Not in Labor Force (%)	Status Unknown #	Status Unknown (%)
070101	Dental Assistant	1	4	0	(0%)	2	(50%)	0	(0%)	2	(50%)	0	(0%)	0	(0%)	0	(0%)
070299	Medical Lab Tech., other	1	2	0	(0%)	1	(50%)	0	(0%)	1	(50%)	0	(0%)	0	(0%)	0	(0%)
070303	Nursing Asst. (Aide)	11	189	3	(2%)	108	(57%)	17	(9%)	43	(23%)	7	(4%)	4	(2%)	7	(4%)
070904	Medical Assistant	3	25	0	(0%)	14	(56%)	11	(44%)	0	(0%)	0	(0%)	0	(0%)	0	(0%)
070906	Health Aide	16	214	1	(1%)	114	(53%)	25	(12%)	53	(25%)	15	(7%)	2	(1%)	4	(2%)
079902	Dietary Aide	1	14	0	(0%)	9	(64%)	0	(0%)	1	(7%)	3	(21%)	0	(0%)	1	(7%)
090201	Care & Guidance of Children	9	103	1	(1%)	41	(40%)	25	(24%)	19	(18%)	9	(9%)	6	(6%)	2	(2%)
090202	Clothing Mgt., Prod. & Service	7	61	0	(0%)	34	(56%)	6	(10%)	14	(23%)	6	(10%)	0	(0%)	1	(2%)
090203	Food Mgt., Prod., & Serv.	4	59	5	(8%)	39	(66%)	2	(3%)	10	(17%)	1	(2%)	1	(2%)	1	(2%)
090205	Inst. & Home Mgt. & Serv.	3	34	0	(0%)	29	(85%)	1	(3%)	3	(9%)	0	(0%)	1	(3%)	0	(0%)
090299	Other Occ. Prep. Homemaking	2	9	0	(0%)	3	(33%)	1	(11%)	0	(0%)	5	(56%)	0	(0%)	0	(0%)
160105	Chemical Tech.	1	8	1	(12%)	4	(50%)	2	(25%)	1	(13%)	0	(0%)	0	(0%)	0	(0%)

Table 23

Employment Status of 1983-84 Completers of Ch. 74 Programs
by Specific Program

U.S.O.E. Code	Program Title	Number of Schools	Number of Completers	Placement of Completers: Military #	Military (%)	Employed RELATED Field #	Employed RELATED Field (%)	Employed NONRELATED Field #	Employed NONRELATED Field (%)	Pursuing Additional Education #	Pursuing Additional Education (%)	Unemployed #	Unemployed (%)	Not in Labor Force #	Not in Labor Force (%)	Status Unknown #	Status Unknown (%)
160108	Electronic Tech.	1	7	1	(14%)	1	(14%)	0	(0%)	0	(0%)	5	(72%)	0	(0%)	0	(0%)
160117	Scientific Data Tech.	2	28	4	(14%)	7	(25%)	3	(11%)	9	(32%)	4	(14%)	1	(4%)	0	(0%)
160401	Programmer	20	460	18	(4%)	203	(44%)	60	(13%)	134	(29%)	14	(3%)	2	(1%)	29	(6%)
160699	Communications Tech.	1	4	1	(25%)	0	(0%)	0	(0%)	3	(75%)	0	(0%)	0	(0%)	0	(0%)
169903	Packaging Tech.	1	2	0	(0%)	0	(0%)	0	(0%)	1	(50%)	0	(0%)	0	(0%)	1	(50%)
169904	Radio & TV Production	1	3	0	(0%)	1	(33%)	1	(33%)	0	(0%)	1	(33%)	0	(0%)	0	(0%)
169907	Business Tech.	2	65	0	(0%)	55	(85%)	5	(8%)	4	(6%)	1	(2%)	0	(0%)	0	(0%)
170100	Air Conditioning	19	167	9	(5%)	97	(58%)	23	(14%)	22	(13%)	10	(6%)	0	(0%)	6	(6%)
170200	Appliance Repair	6	39	4	(10%)	28	(72%)	4	(10%)	3	(8%)	0	(0%)	0	(0%)	0	(0%)
170301	Body & Fender Repair	35	350	10	(3%)	246	(70%)	44	(13%)	13	(4%)	21	(6%)	4	(1%)	12	(3%)
170302	Auto Mechanics	52	752	57	(8%)	463	(62%)	113	(15%)	52	(7%)	34	(5%)	9	(1%)	24	(3%)
170700	Commercial Art Occup.	20	232	10	(4%)	104	(45%)	49	(21%)	49	(21%)	9	(4%)	4	(2%)	7	(3%)
170900	Commercial Photo Occup.	1	7	0	(0%)	3	(43%)	2	(29%)	2	(29%)	0	(0%)	0	(0%)	0	(0%)
171001	Carpentry	48	660	34	(5%)	486	(74%)	65	(10%)	26	(4%)	22	(3%)	9	(1%)	18	(3%)

Employment Status of 1983-84 Completers of Ch. 74 Programs
by Specific Program

U.S.O.E. Code	Program Title	Number of Schools	Number of Completers	Placement of Completers: Military #	Military (%)	Employed RELATED Field #	Employed RELATED Field (%)	Employed NONRELATED Field #	Employed NONRELATED Field (%)	Pursuing Additional Education #	Pursuing Additional Education (%)	Unemployed #	Unemployed (%)	Not in Labor Force #	Not in Labor Force (%)	Status Unknown #	Status Unknown (%)
171002	Electricity	27	325	17	(5%)	230	(71%)	25	(8%)	21	(6%)	22	(7%)	2	(1%)	8	(2%)
171003	Heavy Equip. Oper. & Maint.	3	28	1	(4%)	17	(61%)	1	(4%)	6	(21%)	0	(0%)	0	(0%)	3	(11%)
171004	Masonry	9	95	5	(5%)	64	(67%)	7	(8%)	5	(5%)	7	(8%)	1	(1%)	6	(6%)
171005	Painting & Decorating	17	142	3	(2%)	81	(57%)	28	(20%)	10	(7%)	7	(5%)	5	(4%)	9	(6%)
171007	Plumbing & Pipefitting	23	236	13	(6%)	178	(75%)	20	(8%)	5	(2%)	15	(6%)	3	(1%)	2	(1%)
171099	Constr. & Maint., Other	15	126	5	(4%)	85	(67%)	9	(7%)	4	(3%)	11	(9%)	4	(3%)	8	(6%)
171100	Custodial Services	1	1	0	(0%)	1	(100%)	0	(0%)	0	(0%)	0	(0%)	0	(0%)	0	(0%)
171200	Diesel Mechanic	6	60	10	(17%)	44	(73%)	3	(5%)	1	(2%)	0	(0%)	2	(3%)	0	(0%)
171300	Drafting Occupations	42	364	25	(7%)	165	(45%)	47	(13%)	94	(26%)	16	(4%)	4	(1%)	19	(4%)
171400	Electrical Occupations	21	296	18	(6%)	193	(65%)	31	(10%)	36	(12%)	11	(4%)	3	(1%)	4	(1%)
171500	Electronic Occupations	43	566	32	(6%)	324	(57%)	44	(8%)	127	(22%)	19	(3%)	5	(1%)	15	(3%)
171503	Radio & TV Repair	2	37	5	(14%)	25	(68%)	2	(5%)	3	(8%)	2	(5%)	0	(0%)	0	(0%)
171900	Graphic Arts Occup.	35	452	27	(6%)	281	(62%)	57	(13%)	30	(7%)	29	(6%)	9	(2%)	19	(4%)
171902	Printing Press Occup.	4	38	1	(3%)	20	(53%)	7	(18%)	2	(5%)	7	(18%)	1	(3%)	0	(0%)

Table 23

Employment Status of 1983-84 Completers of Ch. 74 Programs
by Specific Program

U.S.O.E. Code	Program Title	Number of Schools	Number of Completers	Placement of Completers: Military #	Military (%)	Employed RELATED Field #	Employed RELATED Field (%)	Employed NONRELATED Field #	Employed NONRELATED Field (%)	Pursuing Additional Education #	Pursuing Additional Education (%)	Unemployed #	Unemployed (%)	Not in Labor Force #	Not in Labor Force (%)	Status Unknown #	Status Unknown (%)
172100	Instrument Maint. Repair	1	4	0	(0%)	2	(50%)	0	(0%)	1	(25%)	0	(0%)	0	(0%)	1	(25%)
172200	Maritime Occup.	4	49	6	(12%)	23	(47%)	16	(33%)	3	(6%)	1	(2%)	0	(0%)	0	(0%)
172302	Machine Shop	48	694	47	(7%)	475	(68%)	71	(10%)	50	(7%)	28	(4%)	4	(1%)	19	(3%)
172305	Sheet Metal	19	155	9	(6%)	91	(59%)	25	(16%)	8	(5%)	11	(7%)	4	(3%)	7	(5%)
172306	Welding & Cutting	14	135	11	(8%)	88	(65%)	17	(13%)	9	(7%)	6	(4%)	1	(1%)	3	(2%)
172309	Metal Patternmaking	1	5	1	(20%)	3	(60%)	0	(0%)	1	(20%)	0	(0%)	0	(0%)	0	(0%)
172399	Metalworking Other (Fab)	19	224	18	(8%)	165	(74%)	13	(6%)	10	(4%)	2	(1%)	0	(0%)	16	(7%)
172602	Cosmetology	28	448	1	(1%)	224	(50%)	88	(20%)	32	(7%)	44	(10%)	13	(3%)	46	(10%)
172700	Plastics Occupations	2	7	0	(0%)	6	(86%)	0	(0%)	1	(14%)	0	(0%)	0	(0%)	0	(0%)
172900	Quantity Food Occup.	29	506	22	(4%)	327	(65%)	34	(7%)	49	(10%)	49	(10%)	13	(3%)	12	(2%)
172902	Cook/Chef	5	64	5	(8%)	22	(34%)	4	(6%)	20	(31%)	3	(5%)	1	(2%)	9	(14%)
173100	Small Engine Repair	5	37	5	(14%)	19	(51%)	10	(27%)	1	(3%)	0	(0%)	0	(0%)	2	(5%)
173200	Stationary Energy Sources	2	24	4	(17%)	5	(21%)	11	(46%)	1	(4%)	1	(4%)	0	(0%)	2	(8%)
173300	Textile Prod. & Fab.	3	28	1	(4%)	13	(46%)	7	(25%)	3	(11%)	4	(14%)	0	(0%)	0	(0%)

Table 23

Employment Status of 1983-84 Completers of Ch. 74 Programs
by Specific Program

U.S.O.E. Code	Program Title	Number of Schools	Number of Completers	Placement of Completers: Military #	Military (%)	Employed RELATED Field #	Employed RELATED Field (%)	Employed NONRELATED Field #	Employed NONRELATED Field (%)	Pursuing Additional Education #	Pursuing Additional Education (%)	Unemployed #	Unemployed (%)	Not in Labor Force #	Not in Labor Force (%)	Status Unknown #	Status Unknown (%)
173500	Upholstering	5	22	1	(5%)	15	(68%)	4	(18%)	1	(5%)	1	(5%)	0	(0%)	0	(0%)
173600	Woodworking/Cabinetmaking	16	148	8	(5%)	97	(66%)	23	(16%)	6	(4%)	12	(8%)	0	(0%)	2	(1%)
179900	Other Trade & Ind. Occup.	1	5	1	(20%)	1	(20%)	2	(40%)	1	(20%)	0	(0%)	0	(0%)	0	(0%)
179901	Ind. Sewing Mach. Repair	1	12	2	(17%)	4	(33%)	0	(0%)	2	(17%)	2	(17%)	1	(8%)	1	(8%)

TABLE 24

EMPLOYMENT STATUS OF 1983-84 COMPLETERS of CHAPTER 74 PROGRAMS
BY TYPE OF SCHOOL

Type of School	Number of Schools	Number of Completers	Placement of Completers: Military #	Military (%)	Employed RELATED Field #	Employed RELATED Field (%)	Employed NONRELATED Field #	Employed NONRELATED Field (%)	Pursuing Additional Education #	Pursuing Additional Education (%)	Unemployed #	Unemployed (%)	Not in Labor Force #	Not in Labor Force (%)	Status Unknown #	Status Unknown (%)
REGIONAL VOCATIONAL-TECHNICAL	27	5,899	295	5%	3,846	65%	625	11%	608	10%	288	5%	70	1%	151	3%
VOCATIONAL-AGRICULTURAL	2	113	2	2%	59	52%	1	1%	25	22%	5	4%	0	0%	21	19%
CITY AND TOWN VOCATIONAL	15	2,381	127	5%	1,343	57%	358	15%	260	11%	165	7%	46	2%	82	3%
COMPREHENSIVE HIGH SCHOOL	13	1,214	63	5%	578	48%	147	12%	260	22%	54	4%	13	1%	99	8%

BY TYPE OF SCHOOL

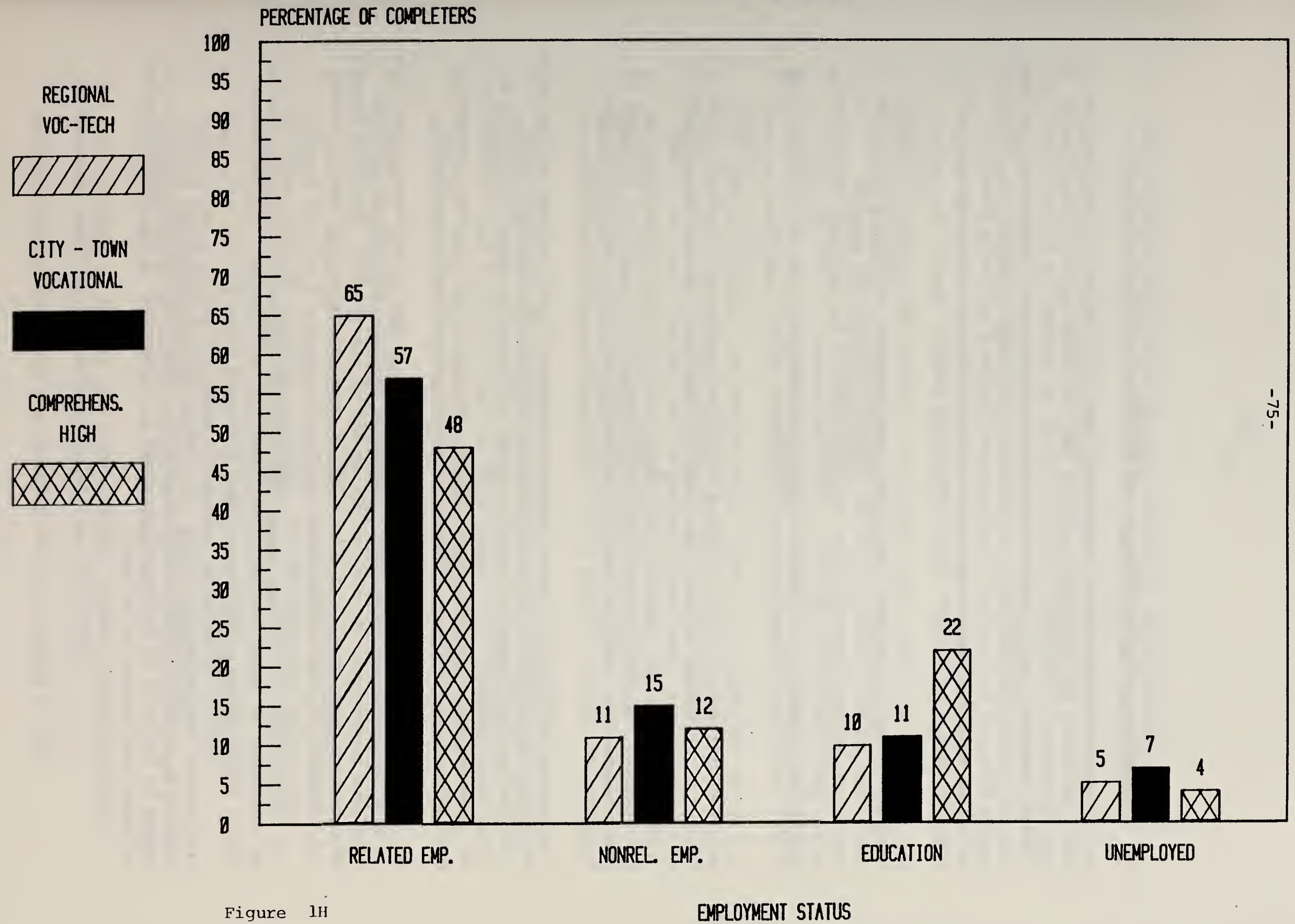


Figure 1H

C. Postsecondary Completer/Leaver and Employer Satisfaction Surveys

Follow-up surveys of student completers/leavers of Chapter 74 programs and their employers are an ongoing part of the evaluation activities conducted by the Department of Education. Work on the third "stream" of these surveys, of 1982-83 student completers/leavers of other postsecondary vocational programs and their employers was begun during fiscal year 1984. Results of this survey showed that, on the average, employers and students both were generally satisfied with the postsecondary vocational training; many dimensions of this training were rated between "good" and "very good."

The first stream of follow-up surveys, of 1979 and 1980 secondary program completers/leavers and their employers, was conducted by TDR Associates in 1982. The second stream, of 1982-82 Community College day program completers/leavers and employers, was conducted by the Board of Regents of Higher Education during 1982-83. This third stream, of 1982-83 other postsecondary program completers/leavers and employers, was undertaken by the Division of Occupational Education in December, 1984.

The survey instruments for these latest student and employer surveys were modified versions of those developed by TDR Associates and the Board of Regents of Higher Education. In addition to asking students and employers to rate postsecondary vocational training on the federally-required items (Technical Knowledge, Work Attitude, Work Quality, Overall, and Relative Preparation), students and employers also were asked to rate the training on these dimensions: Technical Skill, Problem-Solving Skill, Math Skills, Oral Communication Skills, Writing Skills, Social Skills, and Work Habits.

The data collection involved a two-stage process. First, student surveys were mailed to 1,682 completers/leavers (whose names and addressed had been provided by the 16 institutions that offer vocational programs classified as "other postsecondary"). Of these 1,682 surveys, 106 or 6% were returned by the post office as undeliverable. Of the remaining 1,576 surveys presumed to have been received, 582 or 37% were completed and returned by students.

The student survey asked those students who are currently employed and willing to have their employer contacted, to provide the name and address of their immediate supervisor. A total of 501 or 86% of the students returning surveys were currently employed, and 294 or 59% of these students provided the names and addresses of their supervisors.

The second stage of the data collection involved sending the employer version of the survey to those 294 employers identified by students. Approximately 184 or 63% of these employers returned completed surveys.

Preliminary results of the survey are summarized in Tables 22 to 27 and Figures 2A to 2I. (In reviewing these tables, note that in some instances the number of students in particular programs or categories is too small to allow reliable conclusions to be drawn).

- Table 22 shows the average Employer ratings of the dimensions of students' postsecondary vocational training by major program area.

- Table 23 gives the average Student ratings of dimensions of their postsecondary vocational training by major program area.

- Figure 2A depicts the comparison between average Overall Employer and Student ratings by major program area

- Figures 2B and 2C show the comparison between average Employer ratings and average Student ratings for each of the 12 dimensions of training.

- Table 24 gives the average Employer ratings by specific program.

- Table 25 provides the average student ratings by specific program.

- Table 26 provides the average Employer ratings by the completion status, employment status, race/ethnicity/sex, and special needs status of students.

- Table 27 shows the average Student ratings by completion status, employment status, race/ethnicity/sex, and special needs.

- Figure 2D compares average Overall Employer ratings and student ratings, separately for those students who completed their postsecondary programs (Completers) and those students who did not complete their programs (Leavers).

- Figure 2E depicts the comparison between average Overall Employer ratings and Student ratings, separately for those students in jobs Related to their training and those students in Nonrelated jobs.

- Figure 2F shows the comparison between average Overall Employer ratings and Student ratings by Special Needs status of students.

- Figure 2G depicts the comparison between average Overall Employer ratings and Student ratings, separately by the Sex of students.

- Figure 2H shows the comparisons among average Overall Employer ratings for the 3 streams of employer satisfaction surveys conducted to date: 1979-80 secondary programs, 1981-82 community college day programs, 1982-83 other postsecondary programs.

- Figure 2I depicts the comparisons among average Overall Student ratings for 2 of the 3 streams of student satisfaction surveys: 1979-80 secondary programs and 1982-83 other postsecondary programs. Data on student ratings of 1982-82 community college day programs was not available for this comparison.

The main findings to date of the post-secondary student completer/leaver and employer satisfaction surveys include the following:

1. On the average, employers and students both rated many of the

dimensions of postsecondary vocational training as between "good" and "very good". Average ratings were highest for: Work Attitude, Work Quality, and Work Habits. Ratings were lowest for: Math Skills, Oral Skills, Writing Skills, and Problem-Solving. Employers and students both rated Relative Preparation as somewhat better than that of employees who had not received the postsecondary training.

2. The largest overall differences between average employer and average student ratings were on the items: Technical Skills, Oral Skills, Writing Skills, and Social Skills.

   Students rated their Technical Skills more highly than did employers (4.40 versus 4.13). Employers, on the other hand, gave higher ratings than students in the areas of Oral Skills (4.04 versus 3.66), Writing Skills (4.03 versus 3.71) and Social Skills (4.23 versus 4.00).

3. The average ratings of training differed somewhat by Major Program Area; these differences were more pronounced in the Employer ratings than in the Student ratings. Employers' ratings were generally highest for the Health Occupations and Technical Occupations; their ratings were consistently lower for the Agriculture program areas. Students, on the other hand, rated Agriculture programs more highly than did employers; their lowest ratings were generally for the Technical Occupations and Trade and Industry program areas.

4. Student characteristics are somewhat related to ratings of the postsecondary vocational training.

   A. Average Employer ratings and average Student ratings both were higher for most dimensions of training for <u>Completers</u> than for <u>Leavers</u>

   B. Average Employer ratings and average Student ratings both were higher for students in jobs <u>Related</u> to their training than for students in <u>Nonrelated</u> jobs.

   C. There are too few non-white students in the sample for reliable conclusions to be drawn about race/ethnic differences in ratings. However, within the sample of white students, there were few differences in average <u>Employer</u> ratings for males versus females; males received slightly higher ratings than females for Work Attitude (4.58 versus 4.48) and Work Quality (4.55 versus 4.45). Females received slightly higher ratings than males for Technical Skills (4.09 versus 3.84), Writing Skills (4.08 versus 3.81), and Social Skills (4.25 versus 4.13).

      The average <u>Student</u> ratings were consistently higher for females than for males.

5. As figures 7 and 8 illustrate, the three streams of follow-up surveys conducted to date give a consistent and positive picture of how employers and students view vocational training in the Commonwealth. There was a slight trend for students and employers in

other postsecondary sample to rate training more highly than those in the secondary programs or Community College samples.

In addition to analyzing the quantitative ratings of training, the written comments of students are being studied. About 285 or 49% of the students responding to the survey provided written comments about their training. Of these comments, 50% were generally positive, 20% were mixed, 23% were negative, and 7% were neutral. Further analyses are currently underway to categorize these comments by content.

Table 25

Average* EMPLOYER Ratings of Students' Postsecondary Vocational Training
by Major Program Area

Major Program Area	Number of Employers Rating	Overall	Technical Knowledge	Work Attitude	Work Quality	Technical Skills	Problem Solving	Math Skill	Oral Skill	Writing Skill	Social Skill	Work Habit	Relative Preparation
AGRICULTURE	8	3.88	4.13	4.56	4.25	3.63	3.78	3.71	3.78	4.00	4.33	4.22	4.00
DISTRIBUTIVE EDUCATION	1	4.00	4.00	4.00	5.00	2.00	5.00	5.00	5.00	5.00	5.00	4.00	5.00
HEALTH OCCUPATIONS	117	4.35	4.26	4.53	4.49	4.21	4.06	3.96	4.12	4.14	4.27	4.50	4.23
TECHNICAL	31	4.29	4.27	4.55	4.52	4.19	4.16	4.10	3.90	3.80	4.17	4.55	4.47
TRADE & INDUSTRY	25	4.16	4.00	4.38	4.42	3.92	3.88	3.87	3.92	3.87	4.04	4.28	4.60
TOTAL	182	4.28	4.21	4.51	4.48	4.13	4.04	3.97	4.04	4.03	4.23	4.46	4.32

* Average, where 1=very poor, 2=poor, 3=average, 4=good, 5=very good. On "relative preparation" item, 1=less prepared, 3=prepared the same, 5=better prepared

Table 26

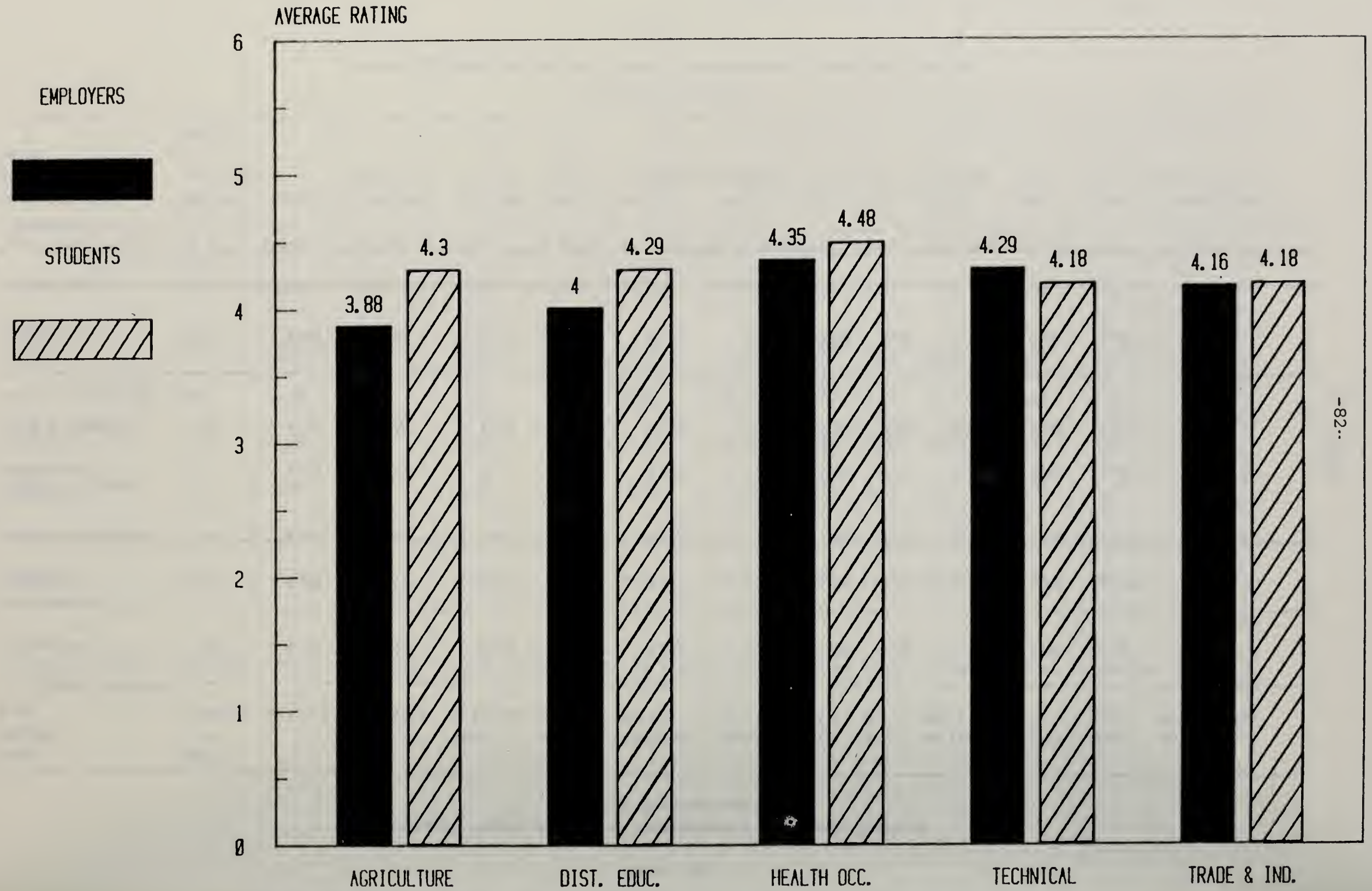
Average* STUDENT Ratings of Postsecondary Vocational Training
by Major Program Area

Major Program Area	Number of Students	Overall	Technical Knowledge	Work Attitude	Work Quality	Technical Skills	Problem Solving	Math Skill	Oral Skill	Writing Skill	Social Skill	Work Habit	Relative Preparation
AGRICULTURE	44	4.30	4.55	4.20	4.25	4.43	3.91	3.70	3.48	3.62	3.90	4.26	4.83
DISTRIBUTIVE EDUCATION	14	4.29	4.43	4.43	4.57	4.57	4.07	3.29	3.43	3.29	4.08	4.29	5.00
HEALTH OCCUPATIONS	332	4.48	4.50	4.40	4.48	4.48	4.14	3.89	3.79	3.84	4.16	4.56	5.00
TECHNICAL OCCUPATIONS	95	4.18	4.35	4.14	4.19	4.25	4.11	3.87	3.41	3.45	3.51	4.03	4.31
TRADE & INDUSTRY	97	4.18	4.26	4.22	4.18	4.22	3.97	3.79	3.55	3.57	3.92	4.27	4.38
TOTAL	582	4.36	4.44	4.32	4.37	4.40	4.09	3.84	3.66	3.71	4.00	4.40	4.35

* Average, where 1=very poor, 2=poor, 3=average, 4=good, 5=very good. On "relative preparation" item, 1=less prepared, 3=prepared the same, 5=better prepared.

OVERALL RATINGS POSTSEC. VOC. TRAINING

BY MAJOR PROGRAM AREA



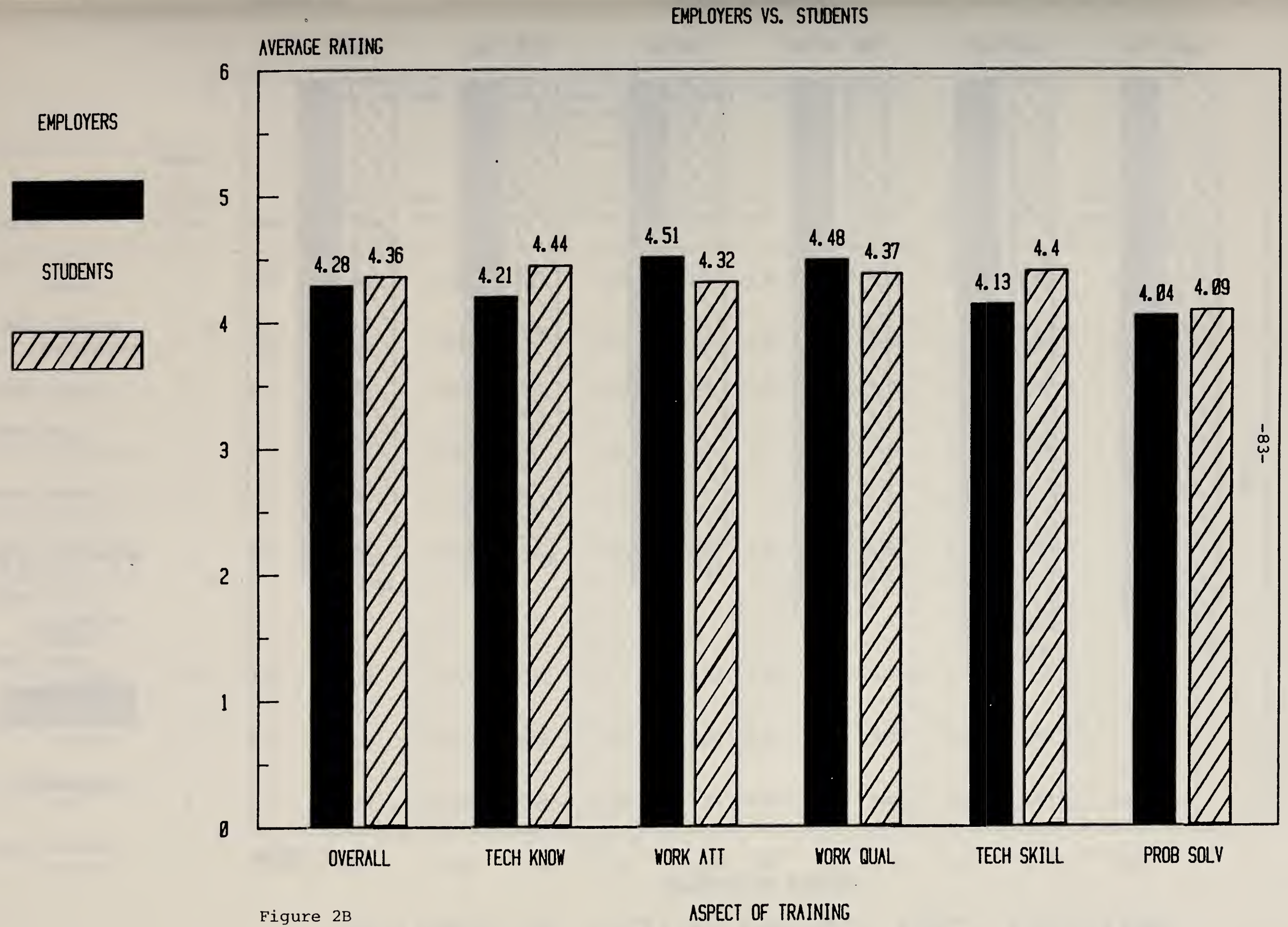

EMPLOYERS VS. STUDENTS
AVERAGE RATING
EMPLOYERS
STUDENTS
6
5
4
3
2
1
0
4.28
4.36
4.21
4.44
4.51
4.32
4.48
4.37
4.13
4.4
4.04
4.09
OVERALL
TECH KNOW
WORK ATT
WORK QUAL
TECH SKILL
PROB SOLV
ASPECT OF TRAINING

Figure 2B

RATINGS OF POSTSECONDARY VOC. TRAINING

EMPLOYERS VS. STUDENTS

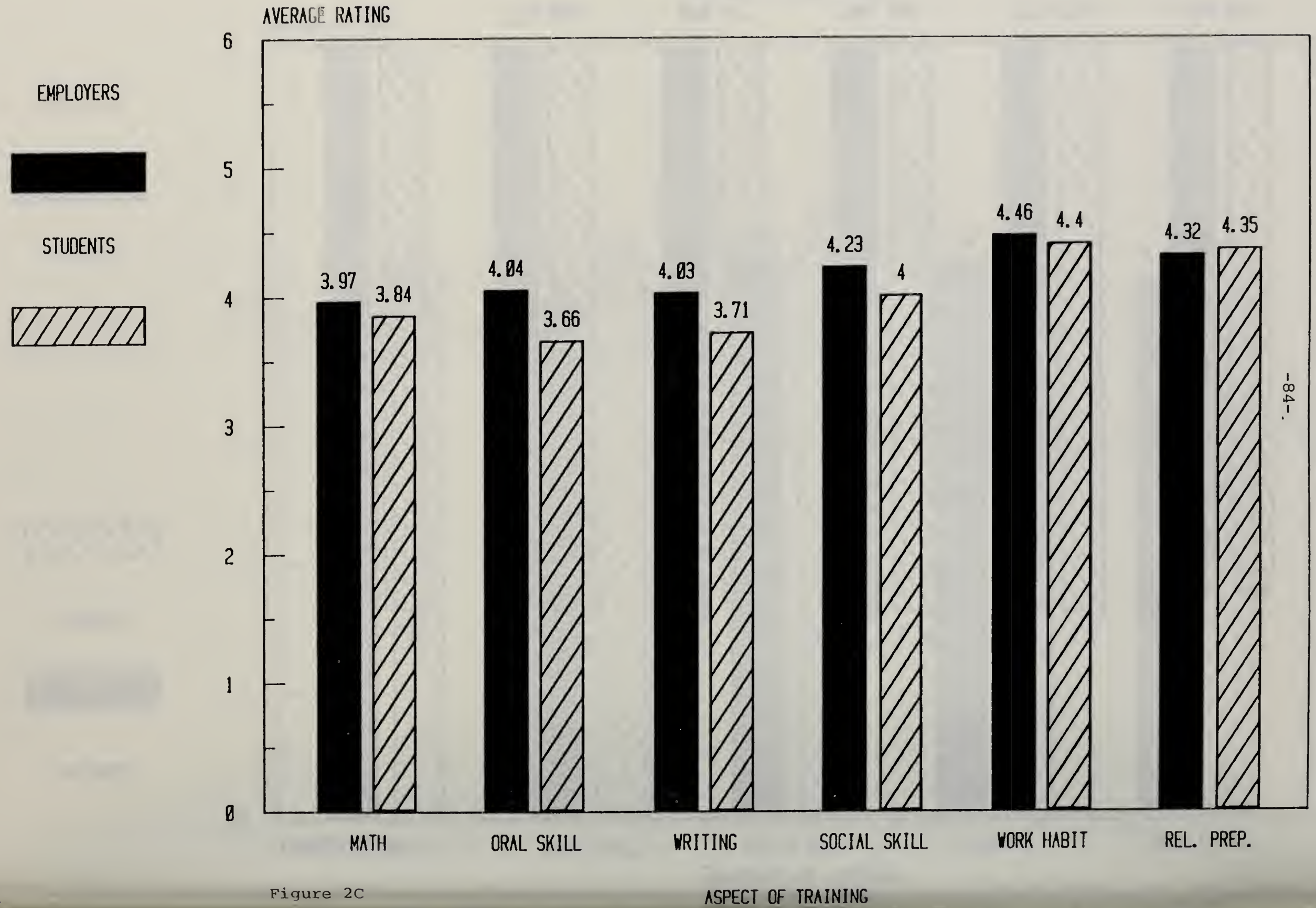


Figure 2C

Table 27
Average* EMPLOYER Ratings of Students' Postsecondary Vocational Training
by Specific Program Area

Program	Number of Employers Rating	Overall	Technical Knowledge	Work Attitude	Work Quality	Technical Skills	Problem Solving	Math Skill	Oral Skill	Writing Skill	Social Skill	Work Habit	Relative Preparation
010101 Animal Science	2	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
010500 Ornamental Horticulture	1	2.00	3.00	5.00	4.00	2.00	2.00	2.00	3.00	4.00	4.00	5.00	3.00
010700 Forestry	2	4.00	3.50	4.00	4.00	3.00	3.50	4.00	3.00	4.00	4.00	4.00	3.00
019900 Other Agriculture	4	3.75	4.50	4.50	4.00	4.00	3.75	3.33	3.75	3.67	4.25	3.75	4.33
040200 Apparel & Accessories	-	-	-	-	-	-	-	-	-	-	-	-	-
040700 Food Services	1	2.00	2.00	4.00	5.00	2.00	5.00	5.00	5.00	3.00	5.00	4.00	5.00
040800 General Merchandise	-	-	-	-	-	-	-	-	-	-	-	-	-
070101 Dental Assistant	12	4.42	4.42	4.58	4.50	4.18	4.08	3.82	3.91	3.91	4.09	4.67	4.78
070203 Medical Lab Assistant	1	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	-
070299 Medical Lab Tech	3	5.00	4.67	5.00	5.00	5.00	4.33	4.00	4.33	4.67	5.00	5.00	5.00
070302 Practical Nursing	84	4.26	4.16	4.48	4.44	4.11	3.96	3.88	4.11	4.10	4.21	4.44	4.04

Table 27

Average* EMPLOYER Ratings of Students' Postsecondary Vocational Training by Specific Program Area

Program	Number of Employers Rating	Overall	Technical Knowledge	Work Attitude	Work Quality	Technical Skills	Problem Solving	Math Skill	Oral Skill	Writing Skill	Social Skill	Work Habit	Relative Preparation
070303 Nursing Assistant	1	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	5.00	5.00	5.00	5.00
070305 Surgical Technology	5	4.40	4.40	4.60	4.60	4.40	4.40	4.50	4.25	4.25	4.60	4.40	4.20
070904 Medical Assistant	11	4.64	4.60	4.64	4.55	4.60	4.50	4.56	4.27	4.40	4.36	4.55	4.78
160103 Architectural Tech	3	4.00	4.33	4.67	4.33	3.67	3.67	3.67	3.67	3.33	4.00	4.00	4.33
160106 Civil Tech	4	4.25	4.00	4.25	4.25	4.25	4.50	4.00	3.50	3.50	3.75	4.00	4.50
160107 Electrical Tech	1	5.00	5.00	4.00	4.00	5.00	5.00	4.00	3.00	3.00	3.00	5.00	5.00
160108 Electronic Tech	4	4.00	4.33	4.75	4.75	4.00	4.50	4.00	4.00	3.75	4.25	4.75	4.00
160109 Electro-mechanical Tech	5	4.60	4.40	4.40	4.60	4.40	4.00	4.20	3.40	3.60	4.00	4.60	4.60
160401 Programmer	14	4.29	4.21	4.64	4.57	4.21	4.07	4.23	4.31	4.15	4.46	4.71	4.54
170100 Air Conditioning	2	3.50	4.00	4.50	4.50	4.00	5.00	3.00	3.00	4.00	3.00	4.00	4.00

Table 27

Average* EMPLOYER Ratings of Students' Postsecondary Vocational Training by Specific Program Area

Program	Number of Employers Rating	Overall	Technical Knowledge	Work Attitude	Work Quality	Technical Skills	Problem Solving	Math Skill	Oral Skill	Writing Skill	Social Skill	Work Habit	Relative Preparation
170700 Commerical Art	1	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
171200 Diesel Mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-
171300 Drafting Occupations	6	4.50	4.17	4.67	4.83	4.00	4.17	4.00	4.00	3.50	4.00	4.50	5.00
172306 Welding & Cutting	1	5.00	5.00	5.00	5.00	5.00	5.00	4.00	5.00	5.00	4.00	4.00	5.00
172602 Cosmetology	9	4.11	4.11	4.11	4.11	3.78	3.63	3.88	3.78	3.88	4.11	4.22	4.43
172901 Baking	1	4.00	4.00	4.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	4.00	5.00
172902 Cook/Chef	5	3.80	3.33	4.33	4.33	3.67	3.50	3.80	4.00	4.00	4.17	4.17	4.60

* Average, where 1=very poor, 2=poor, 3=average, 4=good, 5=very good. On "relative preparation" item, 1=less prepared, 3=prepared the same, 5=better prepared

Table 28

Average* STUDENT Ratings of Postsecondary Vocational Training by Specific Program

Program	Number of Students	Overall	Technical Knowledge	Work Attitude	Work Quality	Technical Skills	Problem Solving	Math Skill	Oral Skill	Writing Skill	Social Skill	Work Habit	Relative Preparation
010101 Animal Science	8	3.62	4.13	3.62	3.75	4.38	3.50	3.50	3.63	3.63	3.88	3.88	5.00
010500 Ornamental Horticulture	10	4.80	4.70	4.60	4.60	4.60	4.50	4.38	3.78	3.78	4.00	4.44	5.00
010700 Forestry	11	4.45	4.73	4.09	4.18	4.36	3.55	3.55	3.00	3.45	3.73	4.09	5.00
019900 Other Agriculture	15	4.20	4.53	4.33	4.33	4.40	4.00	3.54	3.57	3.64	4.00	4.50	4.60
040200 Apparel & Accessories	9	4.67	4.67	4.56	4.67	4.67	4.11	3.56	3.56	3.67	4.37	4.33	5.00
040700 Food Services	4	3.75	4.00	4.25	4.50	4.50	3.75	2.50	3.00	2.50	3.67	4.50	5.00
040800 General Merchandise	1	3.00	4.00	4.00	4.00	4.00	5.00	4.00	4.00	3.00	3.00	3.00	-
070101 Dental Assistant	41	4.56	4.70	4.46	4.59	4.70	4.13	3.70	3.76	3.64	4.33	4.65	4.81
070203 Medical Lab Assistant	2	4.50	4.50	4.00	4.50	4.50	4.00	4.50	4.50	4.00	4.00	4.50	-
070299 Medical Lab Tech	6	4.00	4.67	4.17	4.40	4.67	3.83	3.33	3.33	3.50	4.00	4.83	4.20

Table 28

Average* STUDENT Ratings of Postsecondary Vocational Training by Specific Program

Program	Number of Students	Overall	Technical Knowledge	Work Attitude	Work Quality	Technical Skills	Problem Solving	Math Skill	Oral Skill	Writing Skill	Social Skill	Work Habit	Relative Preparation
070302 Practical Nursing	210	4.49	4.50	4.42	4.47	4.47	4.20	3.97	3.79	3.86	4.14	4.55	4.18
070303 Nursing Assistant	11	4.50	4.60	4.50	4.50	4.62	4.57	4.50	4.50	4.50	4.50	4.67	5.00
070305 Surgical Technology	10	4.70	4.70	4.50	4.56	4.50	4.30	3.56	4.11	4.00	4.40	4.60	4.20
070904 Medical Assistant	52	4.40	4.27	4.31	4.40	4.29	3.86	3.72	3.68	3.84	4.00	4.43	4.14
160103 Architectural Tech	13	4.38	4.38	4.00	4.15	4.31	4.00	3.54	3.42	3.42	3.75	4.00	4.00
160106 Civil Tech	5	4.60	4.80	4.60	4.60	4.80	4.40	3.80	2.80	3.00	3.75	4.50	4.33
160107 Electrical Tech	1	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.00	4.00	4.00	5.00	5.00
160108 Electronic Tech	13	4.00	4.62	4.00	4.08	4.46	4.08	3.62	3.25	2.92	3.08	4.08	4.78
160109 Electro-mechanical Tech	15	3.87	4.07	4.07	4.07	3.73	3.47	3.60	3.00	3.14	3.21	3.86	5.00
160401 Programmer	48	4.21	4.30	4.17	4.22	4.26	4.30	4.11	3.64	3.76	3.64	4.02	4.03

Table 28

Average* STUDENT Ratings of Postsecondary Vocational Training by Specific Program

Program	Number of Students	Overall	Technical Knowledge	Work Attitude	Work Quality	Technical Skills	Problem Solving	Math Skill	Oral Skill	Writing Skill	Social Skill	Work Habit	Relative Preparation
170100 Air Conditioning	7	4.14	4.43	4.14	4.00	4.29	4.14	4.00	3.17	3.33	3.50	4.14	4.50
170700 Commercial Art	12	3.83	3.92	3.83	3.92	4.00	3.83	2.50	3.13	3.14	3.63	4.18	4.33
171200 Diesel Mechanic	7	3.71	4.14	4.00	4.33	3.83	4.00	4.50	4.17	3.83	4.00	4.00	4.60
171300 Drafting Occupations	14	4.00	4.00	4.00	4.00	4.29	4.00	3.93	3.00	3.07	3.31	4.00	4.00
172306 Welding & Cutting	3	4.67	5.00	4.33	4.00	4.33	4.00	4.00	3.67	4.00	4.00	4.33	4.00
172602 Cosmeteology	33	4.48	4.45	4.44	4.38	4.45	4.11	3.95	3.95	3.89	4.31	4.66	4.29
172901 Baking	1	3.00	3.00	3.00	2.00	4.00	4.00	2.00	2.00	3.00	3.00	3.00	5.00
172902 Cook/Chef	20	4.15	4.30	4.40	4.30	4.00	3.75	3.55	3.65	3.75	3.95	4.05	4.63

* Average, where 1-very poor, 2=poor, 3=average, 4=good, 5=very good. On "relative preparation" item, 1=less prepared, 3=prepared the same, 5=better prepared.

Table 29

Average* EMPLOYER Ratings of Students' Postsecondary Vocational Training by Student's Completion Status, Employment Status, Special Needs, Race/Ethnicity/Sex

	Number of Employers Rating	Overall	Technical Knowledge	Work Attitude	Work Quality	Technical Skills	Problem Solving	Math Skill	Oral Skill	Writing Skill	Social Skill	Work Habit	Relative Preparation
COMPLETION STATUS:													
Completed Program	180	4.31	4.24	4.51	4.47	4.15	4.05	3.97	4.05	4.05	4.22	4.46	4.32
Left before Completion	4	3.00	3.00	4.50	4.75	3.00	4.00	4.00	4.00	3.00	4.33	4.50	4.50
EMPLOYMENT STATUS:													
Related Job	170	4.29	4.22	4.52	4.47	4.14	4.03	3.95	4.04	4.03	4.22	4.46	4.29
Nonrelated Job	12	4.00	3.82	4.33	4.50	3.73	4.17	4.08	3.92	4.00	4.25	4.33	4.75
SPECIAL NEEDS:													
NONE	173	4.29	4.23	4.53	4.48	4.14	4.05	3.97	4.05	4.02	4.24	4.48	4.35
Handicapped	3	4.67	4.33	4.33	4.67	4.33	4.67	4.67	4.00	4.33	4.00	4.33	4.33
Limited English Proficient	1	2.00	2.00	3.00	3.00	3.00	1.00	3.00	3.00	-	3.00	3.00	3.00
Disadvantaged	7	4.14	4.00	4.29	4.43	3.86	4.00	3.67	4.14	4.29	4.14	4.29	3.80

Table 29

Average* EMPLOYER Ratings of Students' Postsecondary Vocational Training
by Student's Completion Status, Employment Status, Special Needs, Race/Ethnicity/Sex

	Number of Employers Rating	Overall	Technical Knowledge	Work Attitude	Work Quality	Technical Skills	Problem Solving	Math Skill	Oral Skill	Writing Skill	Social Skill	Work Habit	Relative Preparation
RACE/ETHNICITY/SEX:													
American Indian													
Male	-	-	-	-	-	-	-	-	-	-	-	-	-
Female	-	-	-	-	-	-	-	-	-	-	-	-	-
Asian-Pacific Islander													
Male	-	-	-	-	-	-	-	-	-	-	-	-	-
Female	-	-	-	-	-	-	-	-	-	-	-	-	-
Black													
Male	-	-	-	-	-	-	-	-	-	-	-	-	-
Female	2	5.00	5.00	5.00	5.00	5.00	4.50	4.50	4.50	4.50	5.00	5.00	5.00
Hispanic													
Male	-	-	-	-	-	-	-	-	-	-	-	-	-
Female	-	-	-	-	-	-	-	-	-	-	-	-	-
White													
Male	40	4.21	4.14	4.58	4.55	3.97	4.05	4.00	3.84	3.81	4.13	4.46	4.41
Female	140	4.29	4.22	4.48	4.45	4.15	4.03	3.95	4.09	4.08	4.25	4.45	4.28
Nonresident Alien													
Male	-	-	-	-	-	-	-	-	-	-	-	-	-
Female	-	-	-	-	-	-	-	-	-	-	-	-	-

* Average, where 1=very poor, 2=poor, 3=average, 4=good, 5=very good. On "relative preparation" item, 1=less prepared, 3=prepared the same, 5=better prepared.

Table 30

Average* STUDENT Ratings of Postsecondary Vocational Training
by Completion Status, Employment Status, Special Needs, Race/Ethnicity/Sex

	Number of Students	Overall	Technical Knowledge	Work Attitude	Work Quality	Technical Skills	Problem Solving	Math Skill	Oral Skill	Writing Skill	Social Skill	Work Habit	Relative Preparation
COMPLETION STATUS:													
Completed Program	531	4.41	4.48	4.34	4.39	4.42	4.12	3.86	3.68	3.72	4.02	4.43	4.33
Left before Completion	48	3.80	4.02	4.00	4.13	4.10	3.72	3.56	3.39	3.49	3.73	3.90	4.67
EMPLOYMENT STATUS:													
Related Job	416	4.43	4.51	4.37	4.42	4.45	4.12	3.89	3.72	3.75	4.04	4.47	4.36
Nonrelated Job	75	4.27	4.25	4.14	4.21	4.27	4.07	3.79	3.64	3.70	4.08	4.26	4.25
SPECIAL NEEDS:													
NONE	557	4.37	4.44	4.32	4.37	4.40	4.10	3.84	3.66	3.70	3.99	4.40	4.35
Handicapped	8	3.88	3.86	3.57	4.14	4.00	3.33	3.50	3.80	3.60	3.83	3.83	5.00
Limited English Proficient	1	3.00	4.00	5.00	5.00	4.00	3.00	4.00	3.00	4.00	4.00	5.00	3.00
Disadvantaged	16	4.44	4.63	4.56	4.31	4.31	4.06	3.88	3.54	3.80	4.27	4.50	4.11

Table 30

Average* STUDENT Ratings of Postsecondary Vocational Training
by Completion Status, Employment Status, Special Needs, Race/Ethnicity/Sex

	Number of Students	Overall	Technical Knowledge	Work Attitude	Work Quality	Technical Skills	Problem Solving	Math Skill	Oral Skill	Writing Skill	Social Skill	Work Habit	Relative Preparation
RACE/ETHNICITY/SEX:													
American Indian													
Male	-	-	-	-	-	-	-	-	-	-	-	-	-
Female	3	4.33	4.33	4.33	4.33	4.00	4.00	3.67	3.67	3.67	4.00	4.33	5.00
Asian-Pacific Islander													
Male	-	-	-	-	-	-	-	-	-	-	-	-	-
Female	-	-	-	-	-	-	-	-	-	-	-	-	-
Black													
Male	2	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.00	3.50	4.50	5.00
Female	5	3.80	4.00	4.40	3.80	3.60	3.60	3.40	3.60	3.60	4.00	4.60	3.00
Hispanic													
Male	1	4.00	3.00	4.00	4.00	5.00	4.00	4.00	-	-	-	-	5.00
Female	2	4.00	4.50	4.00	4.00	4.00	4.50	4.00	4.00	3.00	3.00	4.00	-
White													
Male	134	4.12	4.36	4.16	4.18	4.23	3.94	3.73	3.41	3.48	3.65	4.13	4.34
Female	428	4.45	4.47	4.36	4.43	4.46	4.13	3.87	3.73	3.78	4.10	4.48	4.36
Nonresident Alien													
Male	-	-	-	-	-	-	-	-	-	-	-	-	-
Female	-	-	-	-	-	-	-	-	-	-	-	-	-

* Average, where 1=very poor, 2=poor, 3=average, 4=good, 5=very good. On "relative preparation" item, 1=less prepared, 3=prepared the same, 5=better prepared.

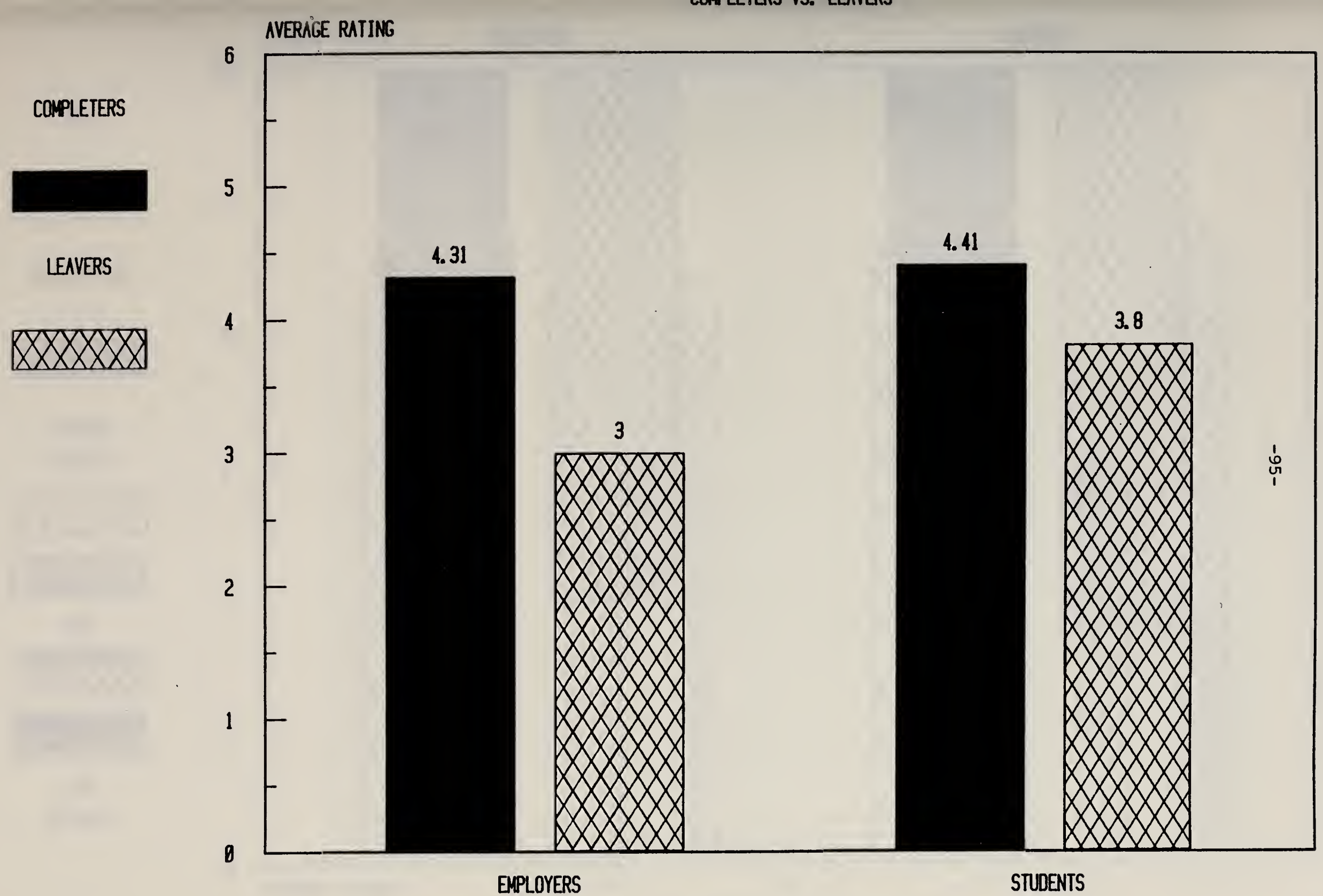
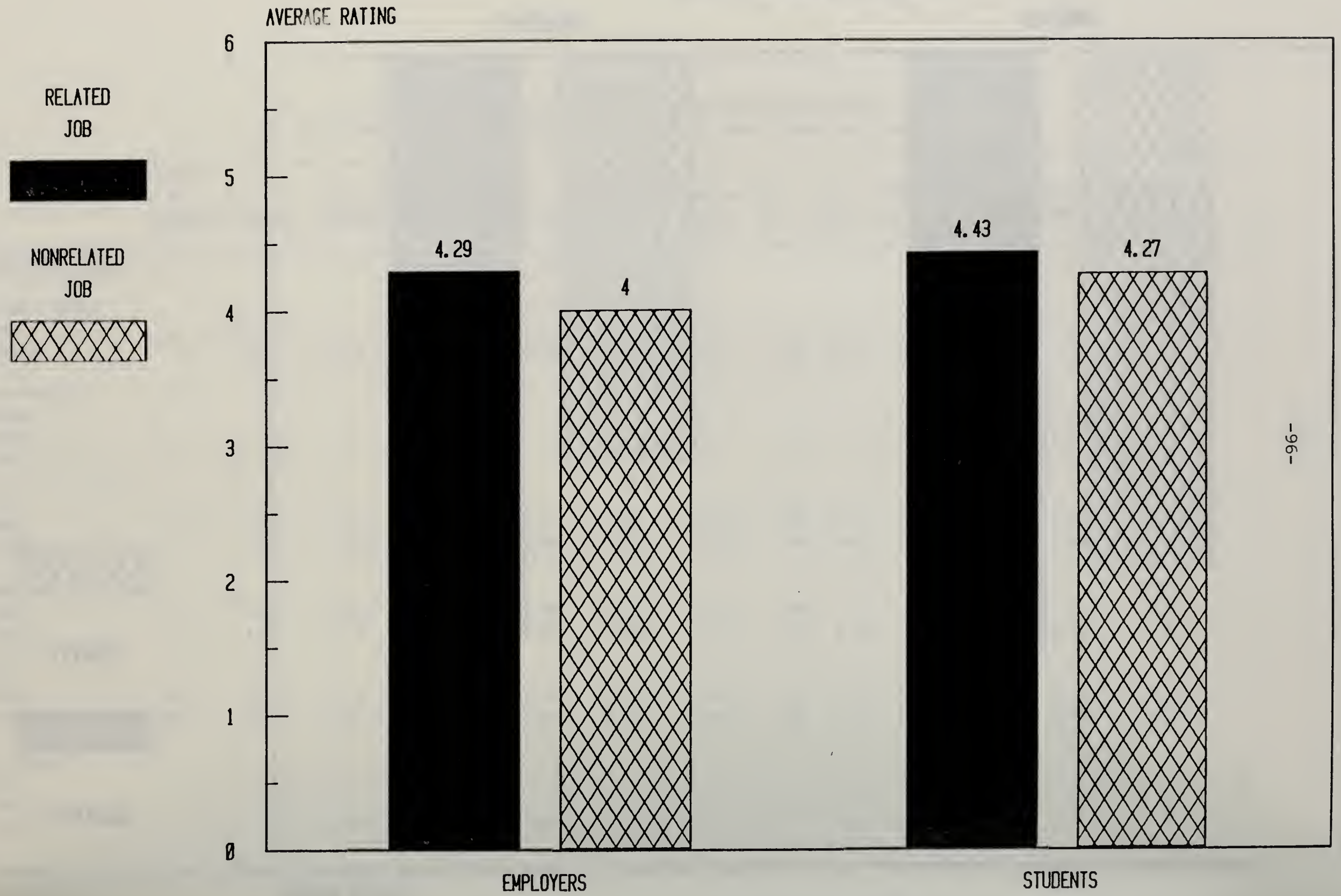

COMPLETERS VS. LEAVERS
AVERAGE RATING
COMPLETERS
LEAVERS
6
5
4
3
2
1
0
4.31
3
4.41
3.8
EMPLOYERS
STUDENTS

Figure 2D

OVERALL RATINGS POSTSEC. VOC. TRAINING

RELATED VS. NONRELATED JOBS



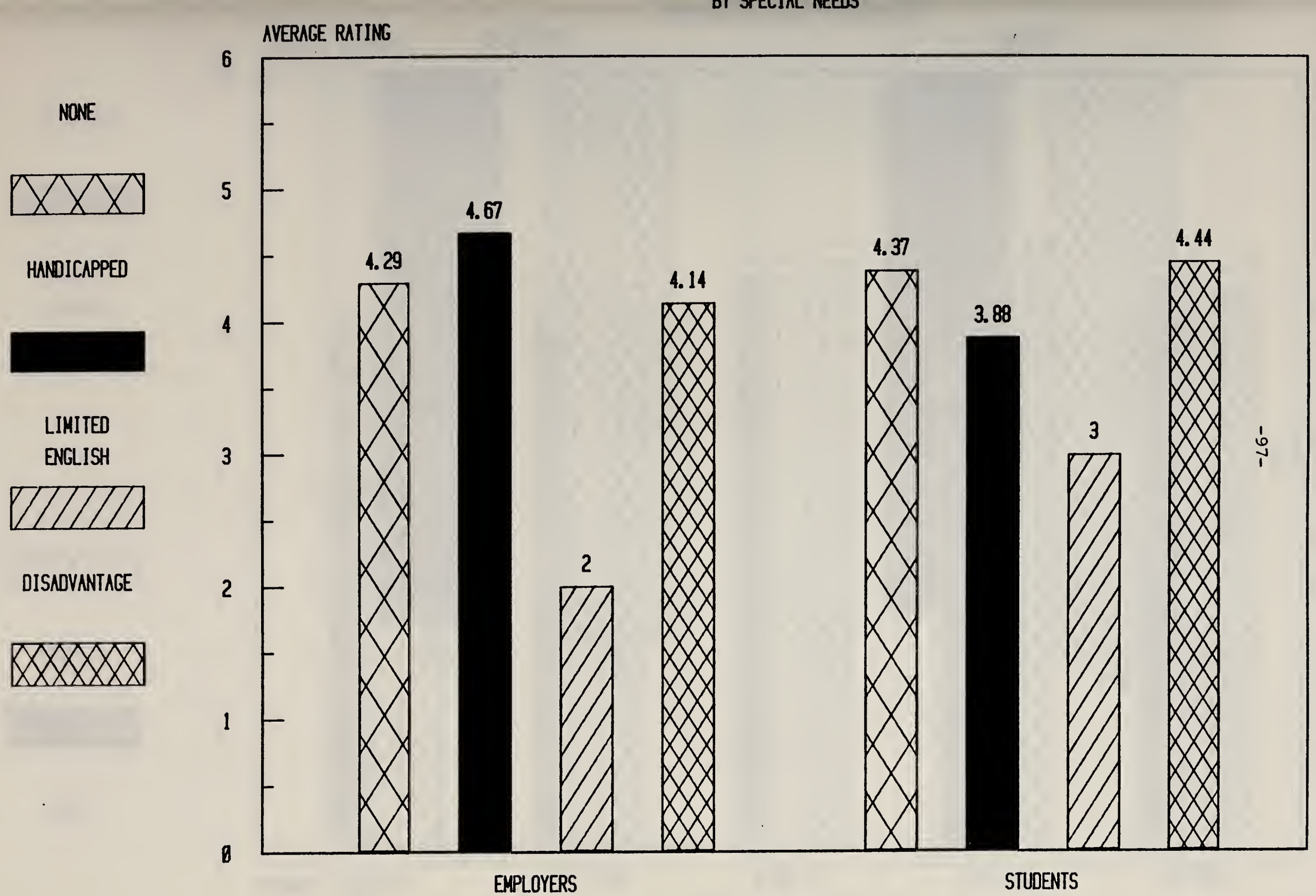
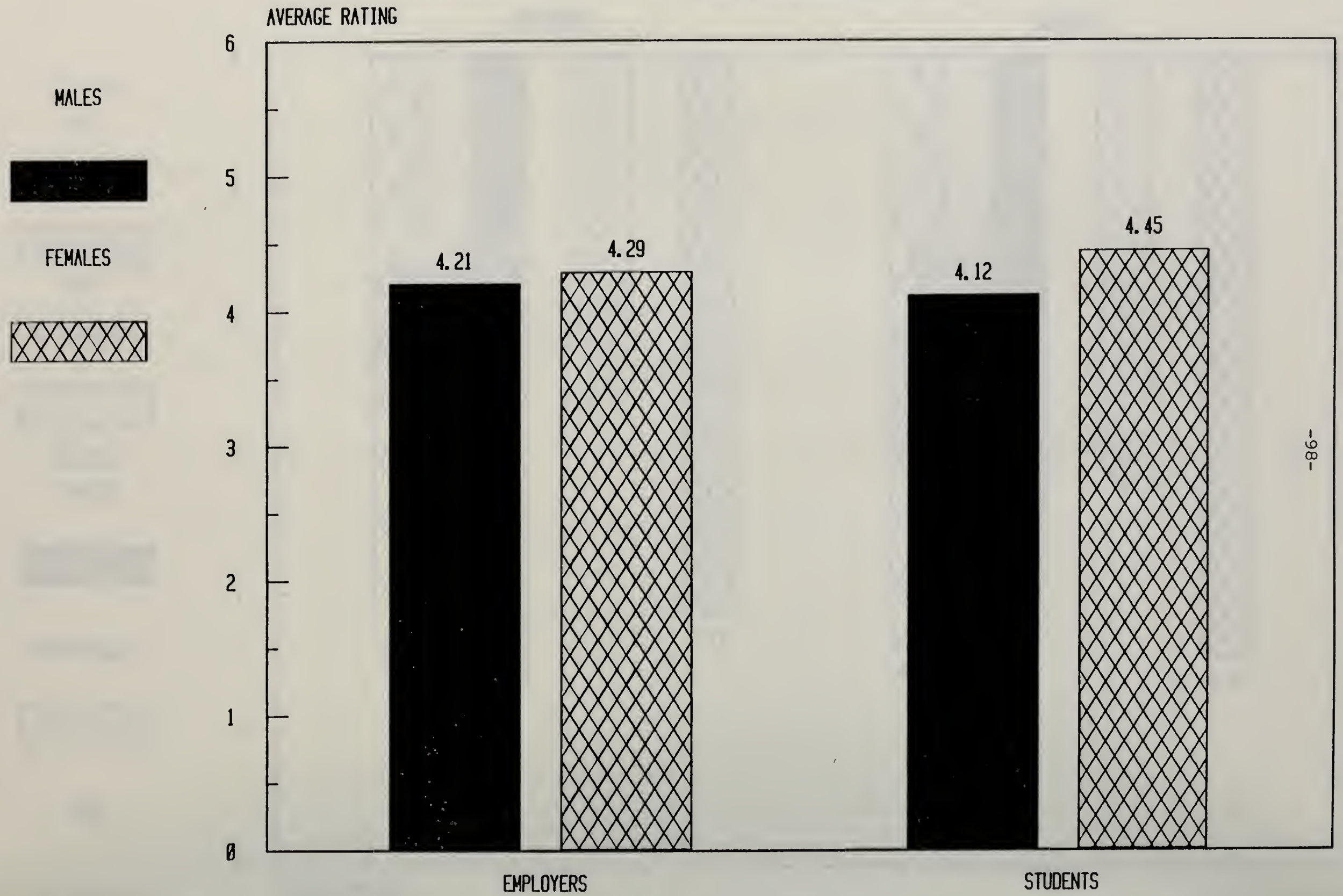

BY SPECIAL NEEDS
AVERAGE RATING
6
5
4
3
2
1
0
NONE
HANDICAPPED
LIMITED ENGLISH
DISADVANTAGE
4.29
4.67
2
4.14
4.37
3.88
3
4.44
EMPLOYERS
STUDENTS

Figure 2F

OVERALL RATINGS POSTSEC. VOC. TRAINING

BY SEX OF STUDENT



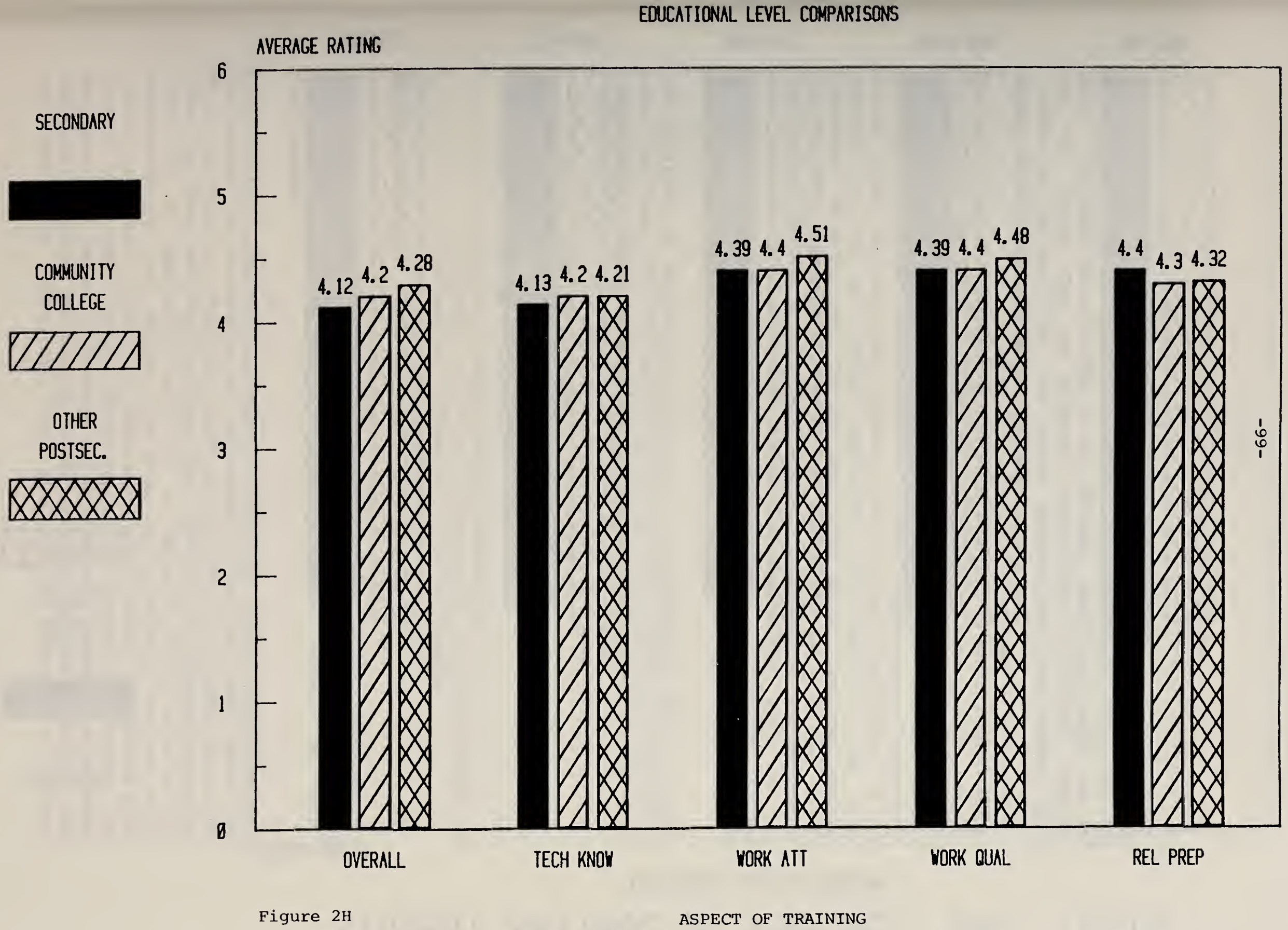
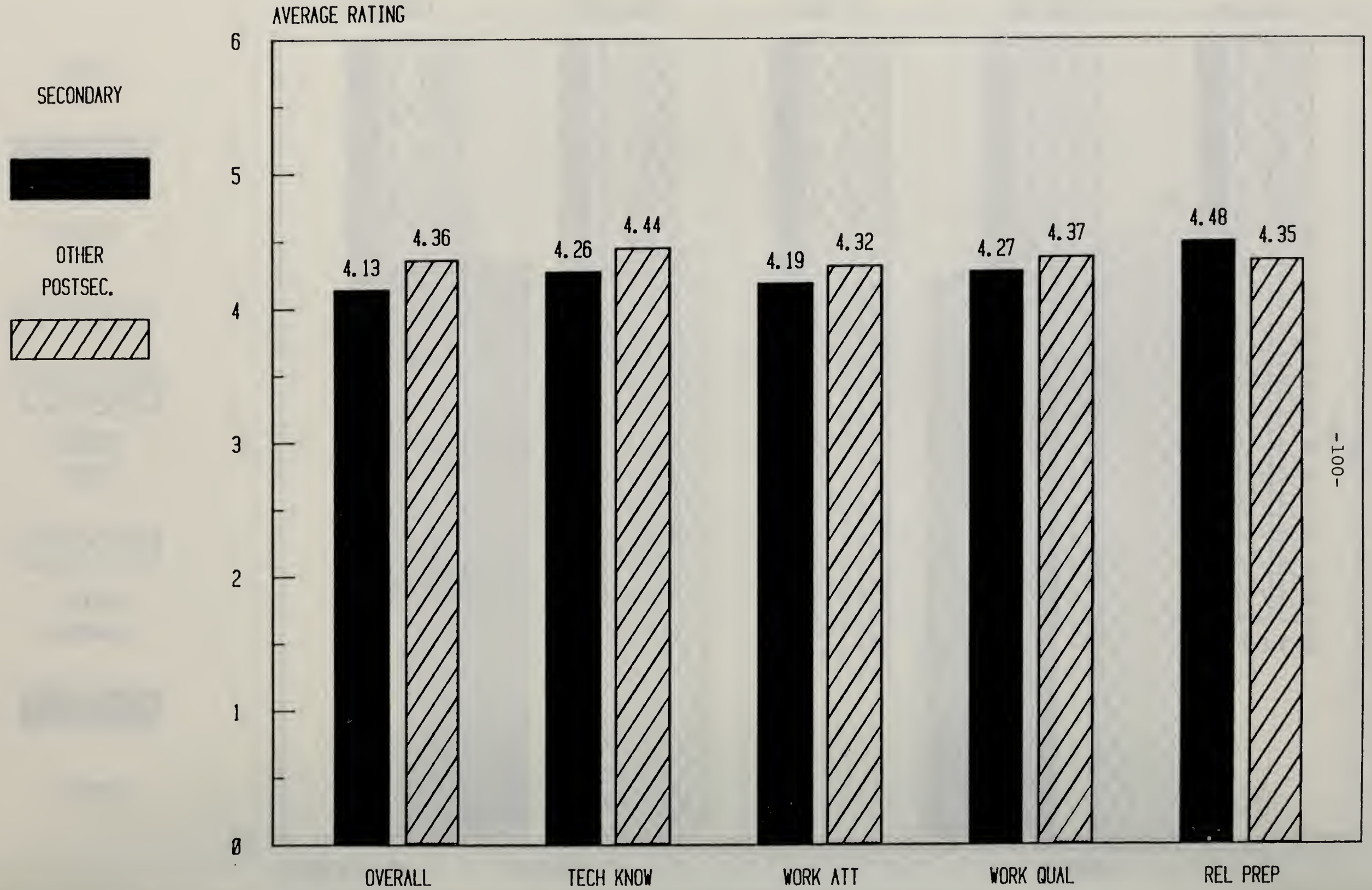

EDUCATIONAL LEVEL COMPARISONS
AVERAGE RATING
SECONDARY
COMMUNITY COLLEGE
OTHER POSTSEC.
6
5
4
3
2
1
0
4.12
4.2
4.28
4.13
4.2
4.21
4.39
4.4
4.51
4.39
4.4
4.48
4.4
4.3
4.32
OVERALL
TECH KNOW
WORK ATT
WORK QUAL
REL PREP
ASPECT OF TRAINING

Figure 2H

STUDENT RATINGS OF POSTSEC. VOC. TRAIN.

EDUCATIONAL LEVEL COMPARISONS



B. GOAL 2: TO INCREASE OPPORTUNITIES IN VOCATIONAL PROGRAMS WHICH ARE OF HIGH QUALITY AND REALISTIC IN TERMS OF EMPLOYMENT DEMAND WHICH MEET THE NEEDS, INTERESTS AND ABILITIES OF ALL CITIZENS, HAVE EQUAL ACCESS FOR ALL AND WILL INSURE THAT ALL STUDENTS (PARTICULARLY MINORITIES, FEMALES, LIMITED ENGLISH PROFICIENT, HANDICAPPED, DISADVANTAGED) ARE AFFORDED EQUAL ACCESS TO VOCATIONAL EDUCATION PROGRAMS.

The Massachusetts Department of Education's effort to provide equal access for females and males to vocational education predates Public Law 94-482. The Commonwealth's equal educational opportunity law, Chapter 622, was passed in 1971 and its regulations, which specifically address vocational education, became effective in 1975. Massachusetts' commitment to sex equity in vocational education was further strengthened by the adoption in 1977 of revised regulations for Chapter 74, the state vocational education law. The law makes state aid to vocational programs contingent on the submission of written "admissions criteria" that do not discriminate against priority populations. Consequently, the outline of the Commonwealth's sex-equity effort was established prior to the promulgation of the sex-equity amendments to P.L. 94-482. The Commonwealth's sex-equity plan is considerably stronger than ones which rely on incentives and model programs.

The Division of Occupational Education's comprehensive plan to ensure equal vocational education opportunities for both sexes and other priority populations in Massachusetts has several general components, which are described in this section:

1. Division Personnel
2. Regular Divisional Procedures
3. Technical Services to Vocational Schools
4. Sex Equity Projects
5. Services to Other Priority Populations.
6. Enrollments of Priority Populations in State Chapter 74 Programs and in Federal P.L. 94-482 Programs

1. Division Personnel

The Division has assigned specific responsibilities for sex-equity to certain staff members, and in addition provides training on an on-going basis for all its program staff in critical aspects of equity requirements.

The Division's Bureau of Program Services is staffed with personnel responsible for overseeing all procedures related to equal access for target populations. Full-time staff in the Equity Unit review Admissions Plans and data for selective vocational schools and programs statewide, coordinate the admissions activities of regional staff, serve on the Department-wide Civil Rights Task Force and coordinate the sex equity provisions of P.L. 94-482. In administering the latter, the Bureau works closely with other bureaus (Post-Secondary; Education, Training and Employment; and Research, Planning and Evaluation) to assess and recommend vocational programs and policies which overcome sex discrimination, bias and stereotyping. Divisional staff have received training, in previous

years, in such areas as: developing strategies to reduce sex bias in vocational education; selecting curricular materials free of sex stereotyping; designing counseling and placement services to assist students to enter and remain in nontraditional areas of study; development of model programs; and providing technical assistance to schools in developing equitable Admissions Policies and Plans.

2. Regular Divisional Procedures

The Division has instituted certain regular procedures designed to ensure that vocational education programs for which the Division has funding and oversight responsibilities comply fully with state and federal sex-equity legislation.

A. Recipients of federal vocational education funds: All applications and competitive proposals for federal vocational education funds must contain the following before they are considered for processing: projected enrollments for all protected categories of students; a description of recruitment procedures for all protected categories of students; an objective designed to reduce sex bias and stereotyping; an evaluation procedure in measurable terms for that objective; assurance that curricular materials used in the proposed project will be reviewed for sex and ethnic bias; assurance that supportive services will be provided for students enrolled in nontraditional programs; and documentation that affirmative action hiring practices will be observed. Each funded project is required to file a Quarterly Progress Report that contains actual enrollment figures for protected categories of students. Further federal funds may be withheld from any project whose actual enrollment figures deviate significantly from projected enrollments. The final report filed for each project reports the gender of all staff hired with federal funds.

B. Selective secondary vocational schools: These schools are the primary deliverers of intensive skills training at the secondary level. The Division undertook an intensive effort to ensure equal access to the Commonwealth's forty-five selective schools commencing in 1976. In that year, each selective school was required to develop and submit an Admissions Plan to the Department of Education that contained (1) current enrollments by category, (2) a description of admissions policies and procedures, and (3) a recruiting plan to increase enrollments of underrepresented categories. Since 1977, each selective school has been required to file an Admissions Plan Update that reports current data, procedures, and recruiting efforts. Federal funds are withheld until the plan is approved. In October 1982, the Division intensified its efforts by focusing on technical assistance to resolve priority concerns in order that admissions policies of selective schools meet divisional standards of approval.

C. Chapter 74 programs (state-aided vocational education programs): The regulations for vocational education programs aided and regulated by the Commonwealth of Massachusetts include "conditions of admission" among the ten factors evaluated by the Division of Occupational Education before programs are approved. All Chapter 74 programs are prohibited by the regulations from using any admission criteria that discriminate on the basis of sex, race, religion, color, national origin or special needs. The Division's regular evaluation of these programs includes an investigation and evaluation of the conditions of admission.

D. Civil Rights Compliance Review: The Department of Education, in accordance with the Massachusetts Methods of Administration in response to the Office for Civil Rights Guidelines for Vocational Education Programs, has instituted an annual procedure for the compilation and distribution to concerned parties of a computer-generated Civil Rights Compliance Review. The Compliance Review is a comprehensive analysis of enrollment data for all secondary vocational education programs in the Commonwealth. Regional staff review sets of computer-generated data consisting of a series of analyses of access to occupational programs for female, minority, handicapped, and limited English proficient students. Data was based on information in the October 1, 1983 School System Summary Report.

Of the 256 school districts with secondary programs in the Commonwealth, at least 212 districts received on-site reviews for civil rights compliance issues beginning in September 1983. This represents 83% of the operating school districts in this state, far more than the 5% required by the Methods of Administration for Massachusetts.

Since the monitoring of the selective secondary vocational schools began in 1977, the enrollment of females has increased by 44% while the total enrollment increase has only been 12%. Table 28 presents enrollment increases in selective secondary vocational schools during fiscal years 1980-84.

Table 32

Female Enrollment Changes In Selective Secondary Vocational Schools (SSVS) for Fiscal Years 1980-1984

	FISCAL YEARS				
SSVS Enrollment	1980	1981	1982	1983	1984
TOTAL	36,479	36,479	37,623	37,532	39,244
Female	9,895	10,577	11,020	11,884	12,490
Female - % of Total	27%	28%	29%	30.5%	32%

3. **Technical Services to Vocational Schools:**

In recognition of the fact that quality technical assistance to schools and staff is critical in achieving educational equity, the Division of Occupational Education has developed and continues to develop model programs for the recruitment, retention and placement of priority populations.

The You Can Do It series, with fact packets and posters translated into several languages, suggests techniques for recruiting Black, Hispanic, limited English-proficient and handicapped students of both sexes, as well as females and males into nontraditional programs. In addition to background information on the participation of target populations in vocational education, a Recruitment Guide includes step-by-step instructions for conducting various recruitment activities. These include producing a slide-tape, writing press releases, and speaking before parent and employer groups.

This series was widely disseminated in 1983-1984 and has been so well-received that several vocational schools, using their own printing shops, are adapting the fact packs to illustrate their particular program offerings.

Making It Work, a vocational education inservice package focusing on drop-out prevention, includes both trainer and participant manuals. This package is divided into three modules: "Conquering Your Dropout Woes", "Placing Your Vocational Education Students", and a "A Blueprint for Student Achievement". The Division is currently disseminating the modules to all vocational schools in the state.

Additional projects currently being developed include a manual of strategies to assist vocational teachers in coping with changes required once nontraditional students are enrolled in their classes and a guide on workable strategies for developing and implementing equitable admissions procedures.

Further technical assistance efforts have included inservice training in equity issues at the Annual Professional Development Conference for Vocational Educators, assistance in devevloping equitable admissions policies for selective vocational schools, curriculum development and staff development in competency-based vocational education and technical assistance in forming and maintaining support groups for nontraditional students.

4. **Sex Equity Projects**

Two sex equity projects that were funded during fiscal year 1984 are described below.

Careers Aiding Sex Equity, New Bedford Public Schools

The major emphases of this program were: (1) Staff training in recognition and elimination of sex bias and sex stereotyping in career decisions, and in recruiting and supporting students in nontraditional

occupational selection; and (2) a summer exploratory program of instruction in five vocational areas.

Sixty eighth-grade students (30 females and 30 males) made nontraditional course selections from five occupational areas-Health Careers, Office Careers, Plastics and Metals, Electronics and Graphic Arts. All students received supportive counseling and were assessed for attitudinal changes.

Camp Career Bound, Blue Hills Regional Vocational School

This summer camp exploratory program provided exposure to four nontraditional areas for students in grades 7, 8 and 9 with particular emphasis on those entering grade 9 who had been excluded from their requested traditional area of training due to lack of space. Camp Career Bound ran for four weeks and exposed participants to the areas of auto repair, metal fabrication, machine shop and electricity. Minuteman Regional Vocational School's Life Skills curriculum was utilized.

Eighty students, including 20 handicapped, two Hispanic and two Black students, participated in hands-on projects and in field trips and discussed careers with nontraditional speakers.

5. Results of Services to Other Priority Populations

In addition to funding sex equity projects, federal funds were targeted toward three other priority groups: handicapped, disadvantaged, and limited English proficient students. Federal funds and program development efforts were directed at increasing the enrollments of students previously underrepresented in occupational education.

Significant progress was made in the improvement of the admission plans process for the 45 selective vocational schools. As a result of streamlining the process, a significant burden was eliminated from the school districts. During fiscal year 1984, major emphasis was directed toward the approval of the admissions policy. Specific technical assistance was provided to each of the selective schools in ensuring the provision of services for all priority populations.

The federal vocational education regulations of the Office for Civil Rights and the Department's "Methods of Administration" continued to be implemented through the use of monitoring instruments specially designed for the process.

The following vocational programs represent the services provided to special populations throughout the Commonwealth. Although most programs involved more than one priority group, programs are listed under the major priority group served. Brief descriptions of each priority group (taken from the State Plan) are included to identify the population groups.

A. HANDICAPPED

Handicapped students are students who fulfill both of the following two conditions:

1. Have one or more of the following impairments: speech, orthopedic, physical, hearing, visual; are mentally retarded; are seriously emotionally disturbed; or who have specific learning disabilities; and who by reason of this impairment(s):

   a. require special education and related services; and

   b. cannot succeed in the regular vocational education program without special educational assistance; or

   c. require a modified vocational education program.

2. Have either an Individualized Education Plan (IEP) or an Individualized Written Rehabilitation Plan (IWRP).

The following program descriptions illustrate services provided to the handicapped.

Vocational Resource Tutors, Natick Public Schools/Quinobin Regional

This project was developed in order to provide support services and remedial instruction to 110 handicapped students enrolled at Quinobin Regional Vocational School. The two full-time and one half-time staff provide individual and small group support services in the resource room, in addition to assisting students in the vocational shops or during related classroom instruction. Tutors also adapt instructional materials for classroom use and meet with vocational instructors in order to develop strategies and methods of instruction for individual students.

Success for this program has been measured by the decreased dropout rate for traditionally high risk students. The dropout rate is fully 25% lower than in past years for this population. Testing results too have reflected positive program accomplishments in which math scores for students have shown dramatic increases with some students' scores improving as much as 5-7 grades. The median increase for school year 1983-1984 was 2-4 grades. Quinobin staff evaluations, as well as the school administrative evaluation have been positive and plans have been formulated to include the program costs in next year's operational budget.

Project Transition, Worcester Public Schools

Project Transition is an extensive four hour per day skills development program which served 18 special needs students who have already completed four years of high school, and 20 students participating in an alternative school program. The special needs students receive instruction in basic skills and do subcontract work as part of a school based sheltered workshop, work on simulated work samples to increase production rates, work within the special education snackbar, or are assigned specific tasks as part of the special education building services program. Alternative school students have received entry level training in either food services, building and grounds maintenance, or home services. Also, the program included paid summer employment for ten of the participants

in the summer component through the Neighborhood Youth Corps.

Project Transition was successful in meeting project objectives as determined by the school district's evaluation team and special workshop and job developer. All student participants demonstrated the acquisition of competencies in the completion of assigned work tasks. Job tasks included piecework production and in school job assignments. Through the use of charts, as well as job review meetings, students demonstrated increased time in attending the work tasks. Typical gains in time attending to tasks were 100-200%. A few students made gains of only 10-20% in production rates; but a majority showed increases of 50-100%. All of the student participants made some gains in the acquisition of appropriate work related behaviors, while 80% of the students can be considered to have made substantial gains in this area.

Copy II - Shawsheen Valley Technical High School

This project is an expansion of the Graphic Arts Program, and includes a specific skill training component for handicapped studer to provide them with saleable skills for job placement in the private sector. Students received instruction in manually programming the computerized control panel of the specialized copy press to become familiar with size and weight, and other related activities designed to control the quality of printed documents.

Skills training opportunities for handicapped students have been greatly enhanced by this program. Students are taught how to operate equipment that they could not otherwise operate because of motor coordination limitations. Feedback from companies substantiates the continued need for students with these skills. One student was placed in a job four months into the program. Total placement of handicapped students is 75%.

B. DISADVANTAGED

Disadvantaged students are persons who have academic or economic disadvantages, or require special services, assistance, or programs to enable them to succeed in vocational education programs. Examples of projects designed to assist disadvantaged students are described below.

Academic Support for Those in Vocational Training, Marlboro Public Schools

This program provides academic support assistance for 25 disadvantaged students enrolled in the Assabet Valley Regional Vocational School afternoon program. In addition, a career counselor coordinator is responsible for placing 25 seniors who are either enrolled in the Assabet Valley P.M. Program, Marlboro High School business department or on the job training students. Students are required to demonstrate mastery of basic competencies in their specific vocational training as well as entry level skills in one of the following trade areas: Food Trades, Drafting, Construction, Auto Body, Machine Shop, Electronics, and Auto Mechanics.
As a result of this project, 63 students received academic or

vocational placement services. Meetings with instructors, employers, site visits, quarterly reports, grade reports and phone calls were used to monitor student behavior and progress. Career interest inventories and aptitude tests were used in determining student proficiency and career interests. The testing results provided evidence of significant improvement in academic and vocational performance for all participating students. In addition, all graduating seniors seeking employment were able to locate jobs in training related fields.

Business Expansion and Academic Remediation, North Adams Public Schools

This program introduced a new business option in automated office procedures, with a primary emphasis on word processing and data management using microcomputers. A total of 35 students were served, of which 25 were academically disadvantaged. The funding provided microcomputers, peripherals, software, and an instructional aide. Academically disadvantaged students in the program were given remediation in the basic skills necessary for good office communications, with the opportunity for 1:1 support assisted by the instructional aide, and individualized, self-paced learning opportunities through the use of the computer. Skill-training in computer literacy, keyboarding, and word processing was emphasized.

This project was so successful in upgrading the basic skills achievement of the academically disadvantaged students enrolled, that it was expanded in the current year (1984-85) to quadruple enrollments. A total of 90 students, enrolled in all vocational areas currently operating at Drury High School, will be served this year. Three aides, rather than one, will provide individual assistance and support, as well as computer-assisted, self-paced remediation.

Aid for the Disadvantaged, Greater New Bedford Regional Vocational Technical High School

This project provided support services in the basic skills areas of math, reading, writing, and listening skills to 265 disadvantaged students. The project was intended to improve students' basic skills and thereby enable them to succeed in their regular vocational programs. Four full-time teachers provided individualized instruction to students during the students' free periods.

Prior to the onset of the program, all 265 of these disadvantaged students had failed one or more areas of the Massachusetts Basic Skills Competency Test. As a result of the project, all students passed the state competency test when they were retested.

C. LIMITED ENGLISH SPEAKING

Limited English proficient students are individuals who come from enrvironments where a language other than English is dominant. By reason of this, they have difficulties speaking and understanding instruction in the English language and require special services,

assistance, or programs in order to succeed in a regular vocational education program. Examples of projects developed for limited English proficient students are described below.

Integrated Remedial Related Team, Holyoke Public Schools

This project provided remedial instruction in shop and shop related math, science, and mechanical drawing to disadvantaged, handicapped, and limited English proficient students. A team of four full-time instructors was assigned to shop clusters, and each instructor was responsible for providing remedial instruction to all three target populations within that cluster. This instructional staff consisted of one special needs certified instructor, one bilingual education instructor, and two occupational education instructors. These related instructors were assigned to a shop cluster according to their training and experience and according to the predominant needs of the students within that cluster. The overall goal was to provide increased support services to these target population students so that they would perform better in shop and therefore have increased opportunities for employment.

This program served a total of 112 students. About 95% of these students indicated a postive attitude toward the program. The student drop-out rate was the lowest it has been for years - - a 40% decrease in drop-outs. All regular vocational instructors rated the program beneficial as the remedial instructors took some of the instructional burden off of them by providing more attention to those students needing it. All 12th grade students being served by this project were placed in trade related jobs.

New Directions (Neuvas Direcciones), Lawrence Public Schools

This project provided a variety of support services to limited English proficient students enrolled in Distributive and Business Education Programs. The project was intended to enable this group, which was at high risk for dropping out, to remain in school and complete their vocational programs. These support services were provided by a bilingual outreach specialist, who established favorable community relations in the City of Lawrence (of which 30% of the population is Hispanic). In addition, a placement specialist assisted students in obtaining employment; a bilingual aide provided remedial assistance; and an instructor provided these students with computer skills necessary to succeed in their regular vocational program.

As a result of these specific support services provided, 48 out of the 50 limited English proficient students returned to school to complete their vocational program. Of the five seniors in the program, three received full-time jobs, and two went on to college. Other students were successfully placed in work study projects.

Bilingual Distributive Education Program, New Bedford Public Schools

This project provided direct support services to eight limited English proficient students enrolled in the Distributive Education

programs. A bilingual aide assisted these students in acquiring skills in marketing, display advertising, sales, and inventory control.

Prior to this project, limited English proficient students were not able to readily benefit from Distributive Education programs. They were confined to academic subject areas until their English improved to the point where they could be mainstreamed into regular Distributive Education classes. As a result of bilingual instruction in regular Distributive Education classes, and additional support services, these limited English proficient students obtained vocational skills in Distributive Education.

6. **Enrollments of Priority Populations**

Priority populations were significantly represented in both State Chapter 74 vocational programs and P.L. 94-482 programs during fiscal year 1984.

A. Table 19 gives the numbers of females, males, and priority population students enrolled in State Chapter 74 programs.

B. Table 20 shows the numbers of females and males within each grade level, ethnic group, and special needs group enrolled in each P.L. 94-482 program category.

TABLE 20

FISCAL YEAR 1984 ENROLLMENTS

PROGRAM CATEGORY 121: VOCATIONAL SKILLS TRAINING

ENROLLMENTS BY GRADE

	ELEMEN-TARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POST-SECONDARY	ADULT
FEMALE					2865	3722	4453	1757	707
MALE					3884	4018	4046	1123	514

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK NON-HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	10407	835	334	1517	27	291	91
MALE	10661	849	357	1366	20	254	80

ENROLLMENTS BY NEED

	HANDI-CAPPED	DISAD-VANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	1662	4790	680	6313	57
MALE	2325	5112	707	5418	25

TOTAL FEMALE	13502
TOTAL MALE	13587
TOTAL	27089

TABLE 20

FISCAL YEAR 1984 ENROLLMENTS

PROGRAM CATEGORY 122: COOPERATIVE EDUCATION

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POST-SECONDARY	ADULT
FEMALE						28	67		
MALE						66	129		

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK NON-HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	82	7	1	2		1	2
MALE	174	10		4	1	2	4

ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	11	79	2	3	
MALE	31	125	5	34	

TOTAL FEMALE	95
TOTAL MALE	195
TOTAL	290

TABLE 20

FISCAL YEAR 1984 ENROLLMENTS

PROGRAM CATEGORY 126: DISPLACED HOMEMAKERS

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POST-SECONDARY	ADULT
FEMALE								24	256
MALE								1	30

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK NON-HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	211	22	6	36		5	
MALE	20	2	1	6		2	

ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	13	203	10	54	
MALE	2	21	1	7	

TOTAL FEMALE	280
TOTAL MALE	31
TOTAL	311

TABLE 20

FISCAL YEAR 1984 ENROLLMENTS

PROGRAM CATEGORY 127: INTERAGENCY INDUSTRY SPECIFIC TRAINING

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POST-SECONDARY	ADULT
FEMALE								4	1477
MALE								16	977

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK NON-HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	1296	42	19	110	8	5	1
MALE	880	23	16	64	5	3	2

ENROLLMENTS BY NEED

	HANDI-CAPPED	DISAD-VANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	16	1111	59	295	
MALE	16	563	80	334	

TOTAL FEMALE	1481
TOTAL MALE	993
TOTAL	2474

TABLE 20

FISCAL YEAR 1984 ENROLLMENTS

PROGRAM CATEGORY 128: ENTREPRENEURSHIP

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POST-SECONDARY	ADULT
FEMALE					2	25	25		
MALE					8	30	50		

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK NON-HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	39	5		7		1	
MALE	61	10		16		1	

ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	3	8		41	
MALE	4	15		69	

TOTAL FEMALE	52
TOTAL MALE	88
TOTAL	140

TABLE 20

FISCAL YEAR 1984 ENROLLMENTS

PROGRAM CATEGORY 132: EXEMPLARY & INNOVATIVE

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POST-SECONDARY	ADULT
FEMALE							387		
MALE							423		

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK NON-HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	276		27	57			27
MALE	245		15	73			90

ENROLLMENTS BY NEED

	HANDI-CAPPED	DISAD-VANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	10	139	10	228	
MALE	14	118		291	

TOTAL FEMALE	387
TOTAL MALE	423
TOTAL	810

TABLE 20

FISCAL YEAR 1984 ENROLLMENTS

PROGRAM CATEGORY 134: GUIDANCE & COUNSELING

ENROLLMENTS BY GRADE

	ELEMEN-TARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POST-SECONDARY	ADULT
FEMALE		275	11637	2527	2008	2914	3623	5	80
MALE		345	12622	3325	2451	3080	4200	5	130

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK NON-HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	19912	1293	341	1126	136	258	3
MALE	22713	1323	362	1259	197	302	2

ENROLLMENTS BY NEED

	HANDI-CAPPED	DISAD-VANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	1626	5469	1205	14707	62
MALE	2612	6398	1184	15828	136

TOTAL FEMALE	23069
TOTAL MALE	26158
TOTAL	49227

TABLE 20

FISCAL YEAR 1984 ENROLLMENTS

PROGRAM CATEGORY 136: REDUCING SEX BIAS

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POST-SECONDARY	ADULT
FEMALE		30	362	132	46	39	4		
MALE		30	283	61	26	34	4		

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK NON-HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	506	34	22	35	8	8	
MALE	368	22	15	22	7	4	

ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	92	230	22	269	
MALE	41	180	15	202	

TOTAL FEMALE	613
TOTAL MALE	438
TOTAL	1051

TABLE 20

FISCAL YEAR 1984 ENROLLMENTS

PROGRAM CATEGORY 140: SPECIAL DISADVANTAGED

ENROLLMENTS BY GRADE

	ELEMEN-TARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POST-SECONDARY	ADULT
FEMALE					52	139	154		
MALE					76	191	237		

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK NON-HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	183	53	19	59		31	
MALE	272	82	29	97		24	

ENROLLMENTS BY NEED

	HANDI-CAPPED	DISAD-VANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	10	287	48		
MALE	28	411	65		

TOTAL FEMALE	345
TOTAL MALE	504
TOTAL	849

TABLE 20

FISCAL YEAR 1984 ENROLLMENTS

PROGRAM CATEGORY 151: CONSUMER AND HOMEMAKING NON-DEPRESSED LOCATIONS

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POST-SECONDARY	ADULT
FEMALE	123	2	216	264	189	284	498	1	20
MALE	142	2	215	233	74	150	261		20

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK NON-HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	1435	33	15	70	2	42	
MALE	979	20	15	53	1	29	

ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	157	342	66	1010	22
MALE	158	279	35	606	19

TOTAL FEMALE	1597
TOTAL MALE	1097
TOTAL	2694

TABLE 20

FISCAL YEAR 1984 ENROLLMENTS

PROGRAM CATEGORY 151: CONSUMER AND HOMEMAKING DEPRESSED LOCATIONS

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POST-SECONDARY	ADULT
FEMALE	1266	1527	1345	464	349	642	892		5
MALE	1282	1517	1356	182	163	255	396		2

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK NON-HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	4812	466	332	765	2	105	8
MALE	3765	353	271	667	1	95	1

ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	531	1928	567	3464	
MALE	477	1601	550	2525	

TOTAL FEMALE	6490
TOTAL MALE	5153
TOTAL	11643

TABLE 20

FISCAL YEAR 1984 ENROLLMENTS

PROGRAM CATEGORY: JOINT OCCUPATIONAL-SPECIAL EDUCATION

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POST-SECONDARY	ADULT
FEMALE					11	6	6		
MALE					23	11	3		

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK NON-HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	21	2					
MALE	35			2			

ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	23				
MALE	37				

TOTAL FEMALE	23
TOTAL MALE	37
TOTAL	60

C. **GOAL 3: TO IMPROVE VOCATIONAL EDUCATIONAL PROGRAMS AND SERVICES. THE PURPPOSE OF THIS GOAL IS TO ENCOURAGE THE DEVELOPMENT AND IMPLEMENTATION OF UNIFORM STANDARDS IN ALL VOCATIONAL PROGRAMS; TO PROMOTE, SUPPORT, AND IMPROVE THE QUALITY OF STAFF DEVELOPMENT PROGRAMS; TO INCREASE STUDENTS' COMPETENCE AND CAREER DECISION-MAKING SKILLS; TO SERVE SPECIAL ADULT POPULATIONS; AND TO MEET EMPLOYMENT NEEDS IN NEW OCCUPATIONAL AREAS.**

Several diverse aspects of the Commonwealth's progress in achieving this goal are described in this section:

1. Staff Training and Development
2. Community Based Organizations
3. Cooperative Education Programs
4. Vocational Education Act (VEA) and Job Training Partnership Act (JTPA) Coordination
5. Vocational Programs for Postsecondary and Adult Populations
6. Instructional Programs in Operation
7. The Massachusetts Vocational Curriculum Resource Center
8. Improvement of Academic Curricula in Vocational-Technical Education
9. Principles of Technology

1. Staff Training and Development

Teacher training activities included recruitment and pre-service training, a summer professional improvement conference, and local school based projects funded through the Commonwealth Inservice Institute. In addition, teachers and other school staff received inservice training targeted to curriculum improvement from the Massachusetts Vocational Curriculum Resource Center. A summary of teacher training activities and the number of participants is shown in Table 31.

TABLE 31
Summary of Fiscal Year 1984 Teacher Training Activities

Activity	Number of Programs	Total Participants Served	Total Amount Funded
Commonwealth Inservice Institute	21	378	30,470
Summer Professional Development Conference for Vocational Education	25	550	43,018
Competency-Based Vocational Education - Curriculum Development Training	14	50	115,987**
Massachusetts Vocational Curriculum Resource Center, inservice sessions	63	971	146,758*

* This figure is the total budget for the Center which includes funds for inservice sessions. A description of the Center's activities may be found on page 107 of this report.

** This figures is the total budget for the Competency Based Vocational Education Program. The training of local school personnel in curriculum development, management, and evaluations is a key element of this program.

The Commonwealth Inservice Institute is the primary funding source for locally initiated inservice training. Through the Commonwealth Inservice Institute, the Division of Occupational Education supports training programs for vocational teachers on several topics, including Electronics for Educators, Vocational Assessment for Special Needs Students, and Mediation Techniques.

Through the Competency-Based Vocational Education (CBVE) curriculum development projects, the Division coordinates and supports the development of a staff training manual and the revision of the vocational curricula. The new curricula in seventeen program areas have been validated state-wide by industry and by vocational educators. It is therefore current, job relevant, amd applicable to various locations. In addition, the CBVE program provides cost effective staff training and resources for individualized instruction suitable to the needs of special populations and all vocational students and teachers.

The Annual Professional Development Conference, a four-day training program in twenty-five (25) program areas, provided occupational updating and professional development for 550 vocational educators. The conference represented an industry education collaborative effort to assist vocational educators in maintaining the state-of-the art in their trade or technology areas. Approximately 115 organizations were involved representing business, industry, labor, higher education, and state and federal agencies.

2. Community Based Organizations

During fiscal year 1984, programs in thirteen community-based organizations were funded for a total of $438,963. These programs, focusing on educationally disadvantaged minority youths enrolled in or planning to enroll in vocational programs, provided services such as remedial education, guidance and counseling, drop out prevention, and follow-up.

Of the thirteen funded programs, eleven were located in Boston and two in Worcester. The community based organizations funded in fiscal year 1984 are as follows:

La Alianza Hispana
Boston Indian Council
Chinese American Civic Association
DARE, Inc.
Dimock Community Health Center
E.S.A.C. (Ecumenical Social Action Committee)
Jobs for Youth, Inc.
Officina Hispana Communidad
Roxbury Multi Service, Inc.
Tri Lateral Council

3. Cooperative Education

Students in cooperative education programs were placed in part-time jobs related to their vocational training. Students participated in alternate periods of employment and instruction at the school. To be eligible, students had to maintain average or above average grades and be in their junior or senior year. A cooperative education director was responsible

for finding job placements and monitoring students at the work site. Pupils were paid wages consistent with employees doing similar work. Employers hiring youths from targeted groups were eligible to receive tax credit.

The following two programs are examples of cooperative education programs funded in fiscal year 1984.

Cooperative Education, Millbury Public Schools

This project provided supportive services in individual and group guidance sessions for disadvantaged students enrolled in the business department. Students were made aware of further career opportunities and training at post high school business and secretarial schools. In small group and individual meetings with the corporate counselor, students developed proficiencies in job interviewing, resume writing and job seeking and job maintenance skills. Cooperative site placements were found for all qualified candidates in training related occupations.

A total of 53 students were served by this project. The program evaluations on the part of student teachers, aides and the high school principal and the advisory committee were very positive. The shadowing and internship programs especially were effective in providing students with a better understanding of the duties and responsibilities associated with certain occupations. The cooperative education coordinator was able to develop employment opportunities through Job Training Partnership Act for those students who were economically disadvantaged.

The project exposed vocational students to the world of work and attempted to meet the individualized needs of a special needs student population. In addition to establishing a working relationship with various businesses in the Millbury area, the staff developed a resource file for future job placements. Most importantly, students received the necessary special services to be successfully mainstreamed in the vocational learning alternative of their choice.

Placement Assistance for Comp-Employment (PACE I), Greater Lowell Regional Vocational Technical School

Project P.A.C.E. I provided additional intensive job development, on-site evaluation and follow-up assistance for fifty eleventh and twelfth grade disadvantaged students who have marginal trade/academic skills.

The program significantly enhanced the students employability potential and transition from in-school cooperative placement to actual employment in the private sector.

4. Vocational Education Act (VEA) and Job Training Partnership Act (JTPA) Coordination

A. Background

The Job Training Partnership Act (JTPA) of 1982 (P.L. 97-300) is a federal training-for-employment act enacted by Congress to replace the Comprehensive Employment and Training Act (CETA) of 1973. Fiscal year 1983 was the last operational year for the Comprehensive Employment and Training Act. The Job Training Partnership Act replaced the Comprehensive Employment and Training Act on October 1, 1983, at the beginning of a designated nine month "transition period."

The major focus of the Job Training Partnership Act legislation is to "establish programs to prepare youth and unskilled adults for job entry and to train economically disadvantaged adults for jobs." Unlike the Comprehensive Employment and Training Act, of which the primary emphasis of which was public service employment with only minor emphasis upon actual training, the Job Training Partnership Act's emphasis is clearly upon training unskilled youth and adults. All other activities found in the Act are subordinate to training or a precursor to training. Educational agencies and institutions are an integral part of the Job Training Partnership Act delivery system.

The Job Training Partnership Act represents a departure from conventional methods of providing local educational assistance in that most local assistance funds flow from the Governor to local administrative entities (Service Delivery Areas), of which there are fifteen in Massachusetts. It establishes the private sector as an equal partner with local government, and shifts funds from income support to direct training services, with 40% of the training subtitle funds to be spent on youth. An eight percent setaside (approximately $2.9 million in fiscal year 1984) is provided for educational coordination and services.

One of the most important implications of this altered distribution process is that for local education agencies to receive funds from major Job Training Partnership Act sources, they must negotiate directly with Service Delivery Areas (SDA's). Educational agencies and institutions also have the opportunity to be involved in planning and decision-making by being represented on the gubernatorial advisory body, the State Job Training Coordination Council (SJTCC), and on the local Private Industry Councils (PIC's), which oversee the activities of the Service Delivery Areas. Representation by educational interests is mandatory at both levels, and that representation must encompass the interests of general education, vocational education, public postsecondary education, and private schools.

Thus, education is a "partner" at both the state and local levels. At the state level, in addition to representation on the State Job Training Coordinating Council, the Department of Education must play an active role in the administration of the educational coordination setaside. At the local level, in addition to representation on the Private Industry Councils, local education agencies are designated as preferential providers of educational services and as the sole eligible local source of the required matching funds for the bulk of the 8% education coordination funds.

B. Results of Vocational Education Act/Job Training Partnerhsip ActCoordination in Massachusetts in Fiscal Year 1984

In October of 1984, when the Job Training Partnership Act legislation took effect, the Department of Education and the Executive Office of Economic Affairs negotiated a memorandum of agreement for the period through June 30, 1984, to conduct a range of activities relevant to the Job Training Partnership Act eight percent educational coordination funds. A total of $245,000 in Job Training Partnership Act 8% funds was transferred to the Department of Education by the Executive Office of Economic Affairs. The Department of Education agreed to carry out the following activities in order to facilitate cooperation between the Job Training Partnership Act system and state/local education agencies in the provision of education and training services:

1. To provide Executive Office of Economic Affairs with coordination of entities providing Job Training Partnership Act services through Department of Education regional offices;

2. To provide technical assistance on educational training programs upon request;

3. To be a full participant in the distribution of funds through the Request For Proposals process, and to work in collaboration with Exectuive Office of Economic Affairs on the development of the Request For Proposals reviewing proposals submitted and recommending proposals for funding.

At its meeting of January 24, 1984, the Massachusetts Board of Education established the Bureau of Education, Training and Employment within the Division of Occupational Education. This bureau was given two mandates:

1. To oversee the implementation of Board recommendations relating to the education for employment of youth in the Commonwealth;

2. To coordinate the various initiatives of the Massachusetts Department of Education under the new Job Training Partnership Act.

This bureau was fully staffed and operational by May 1, 1984. A bureau director and staff in the Department's central office were made responsible for the coordination of activities with the Executive Office of Economic Affairs Office of Training and Employment Policy. A bureau staff person was also outstationed in each of the six regional offices of the Department across the state, to work directly with local educational agencies and the Job Training Partnership Act service delivery areas/Private Industry Councils.

In addition, four consultants were hired by the bureau to provide specialized research and technical assistance in the areas of: (1) competency-based education and training; (2) industry/education partnerships; (3) the awarding of academic credit for work experience; and (4) high school dropout prevention.

The Department of Education undertook a series of development, coordination, and technical assistance activities during fiscal year 1984 to facilitate cooperation between the employment and training system and state/local education agencies.

Major activities included:

- The Department of Education participated with the Executive Office of Economic Affairs in establishing the Education Task Force.

- The Department of Education collaborated in the development of the Request For Proposals and in the final recommendations for funding for the eight percent education coordination grants.

- The Department took the lead in sponsoring, along with the Executive Office of Economic Affairs, the Public/Private Ventures, Inc., State Employment Initiatives for Youth.

- Department staff worked with the Task Force on Public School Youth, Education and Employment to advise the State Board of Education, local schools, state agencies and the public on ways to improve programs which prepare young people for employment.

- A comprehensive Youth Education and Employment Policy was prepared, which the State Board of Education subsequently adopted.

- The Department of Education sponsored, with the Executive Office of Economic Affairs, a series of three technical assistance conferences for educators on the Job Training Partnership Act, at Southeastern Massachusetts University, Middlesex Community College, and the University of Massachusetts at Amherst.

- Through its regional Education, Training and Employment Bureau staff, the Department collaborated with the Office of Training and Employment Policy regional managers in assisting Service Delivery Areas in developing comprehensive planning processes required to respond to the Governor's educational coordination Request For Proposals.

- The Department jointly funded with the Office of Training and Employment Policy a competency based program to serve non-incarcerated youth offenders committed to the Department of Youth Services.

- Six conferences were conducted across the state on industry-education partnerships.

- A booklet on exemplary industry-education partnerships was published and disseminated.

- Department staff conducted a workshop for Job Training Partnership Act Service Delivery Area staff on developing youth competencies, and made available to Service Delivery Areas technical assistance on youth competencies and youth performance benchmarking.

- Department staff conducted Job Training Partnership Act information workshops for the Massachusetts Vocational Association and for the Boston College Vocational Conference for the Handicapped.

- The Department of Education collaborated in staff development workshops and in joint meetings with staff from the Office of Training and Employment Policy.

- A secondary school work experience survey was conducted providing an overview of the current policies and practices of secondary schools with regard to the types of work experiences offered and how credit is awarded to students for participating in these experiences.

- Procedures were initiated to collect information on school dropouts and dropout prevention efforts around the state.

5. Programs for Postsecondary and Adult Populations

During fiscal year 1984, federally funded programs provided skills training and counseling services to displaced homemakers, adult students in community colleges and vocational schools, and inmates of correctional institutions. The students included displaced workers, the unemployed, and the underemployed.

Documentation of a labor market need for each program was a requirement for funding approval. In addition, emphasis was placed upon secondary priority populations: minorities, the handicapped, the disadvantaged, the limited-English proficient and persons seeking training, nontraditional for their sex.

This section describes four categories of programs:

A. Displaced Homemaker Programs
B. Community Colleges
C. Correctional Institutions Programs
D. Vocational Schools

A. Displaced Homemakers Programs

Nine occupational skills training programs were designed to serve Displaced Homemakers. Funded at $271,609 through competitive requests for proposals, these programs offered skills training and supportive counseling to 308 women seeking to enter or to re-enter the workforce. Training was offered in the following occupations: dental assistant, secretary, computer operator, word processor, bookkeeper, clerical operations, and cook/chef.

B. Community Colleges

The state's 15 community colleges and one municipal community college received allocations of $1,170,417 in federal funds, which served 2,434 adult and postsecondary students. All the programs offered occupational skills training; 22 of the 35 funded projects involved computer or word processing skills. The remainder provided instruction in robotics, health occupations, and culinary arts. Two

examples of vocational programs funded in community colleges are described.

Computer Programming and Operations, Middlesex Community College

This career program provided classroom and hands-on experience in industry-related computer skills. Students acquired an entry-level knowledge of BASIC, FORTRAN, and COBOL languages, which allowed them to do fundamental programming, program maintenance and systems analysis. Participants trained on state-of-the art DIGITAL 11-34, and WANG VS-80 Systems. Projected job placement will be with high-technology firms and end users. This program enabled this institution to provide high technology training to additional students.

A total of 60 students, 32 females and 28 males were enrolled in this project. Of the total enrollment, 27 students were disadvantaged and four students were from limited English populations.

Radiologic Health Science, Springfield Technical Community College

This program provided support to the upgrading of curricula in the Radiologic Health Science program. Three specialized health occupational tracks were offered: radiation therapy, nuclear medicine, and radiologic technology; these fields are in especially high demand within the state and the nation. Job placement of completers in this field has been nearly 100%. A microcomputer system was purchased with grant funds; hands-on experience provided students familiarity with the CAT SCAN (computer-assisted tomography) process, which is increasingly required in hospital diagnostics.

A total of 28 students, 19 females and 9 males, were enrolled in this project. Ten disadvantaged individuals were among the enrolees. All of the completers of this program were either placed in related jobs or were pursuing an advanced degree. Average starting salary was about $15,000 per year.

C. Correctional Institutions Programs

Six occupational skills training programs were funded at a level of $134,000 to provide instruction to 165 inmates at state and county correctional institutions. Participants were trained in maintenance skills, computer technology, carpentry, and machine trades. Following is a description of one of these programs.

Plant and Building Maintenance Training, Hampshire County House of Correction

This project offered training in basic maintenance skills for 50 inmates. Participants were instructed in carpentry, plumbing, electrical, painting and decorating. Completers were placed in plant and building maintenance jobs either in a work release program or upon completion of their sentences. Employment demand was strong for these occupations within the institution's region.

D. Vocational Schools

During fiscal year 1984, vocational schools were heavily involved in the occupational skills training of both adults and postsecondary students. These schools received federal funding allocations to support programs known as Adult Short-Term Training. Twenty-five programs were offered, serving 916 students. In addition to programs in computer-based occupations, the schools offered training in carpentry, horticulture, drafting, cosmetology, machine trades, auto mechanics, metal fabrication, and numerical controlled machinery. Following are descriptions of two of these projects.

Office Automation, Assabet Valley Regional Vocational School

This project was designed to prepare adult students in the latest computerized office information systems. The program used a shared-logic computer system which featured word processing, electronic mail and filing, and other advanced electronic business application packages. Funding was provided for salaries, supplies, and a computer system.

A total of sixteen individuals, all of whom are female, were enrolled in this project. Twelve students completed the program and were placed in related jobs with the following firms:

Data General
Consolidated Insurance
Digital Equipment Corporation
NEC

Tool and Die/Mold Making Skills Training,
Minuteman Regional Vocational School

The objective of this project was to provide mold making skills to the unemployed and the underemployed. The plastics industry in the region strongly supported this program, offering job placement to completers. Specialized equipment, supplies and staffing were supported by federal funds.

Eight of the nine enrollees completed this program and all of the completers were placed in related jobs with these employers:

United States Army Materials Research
Varian
Beverly Pattern, Inc.
A.W. Chesterton
Precision Elastometers, Inc.

In addition to Adult Short-Term Training, many vocational schools offered a wide range of adult and postsecondary occupational skills programs. Two institutions offer exclusively postsecondary programs: The Worcester Industrial Technical Institute in Worcester, and the Blue Hills Technical Institute in Canton. These institutions provide state-of-the art instruction in such areas as computer-assisted drafting and design, electrical power

technology, electro-mechanical technology, ophthalmic technology, air conditioning and refrigeration, architectural design, diesel technology, and medical and dental laboratory technology.

6. Instructional Programs in Operation

In fiscal year 1984, there were approximately 150 different vocational education instructional programs available for students in secondary and postsecondary schools. The goal of these programs was to prepare students for employment or for a career requiring other than a baccalaureate or advanced degree.

Federal funds enabled school systems to develop new programs and expand program offerings.

The following describes a small sample of the instructional programs offered in six occupational areas: health, vocational home economics, trade and industry, technical, marketing and distributive education, and vocational agriculture.

A. HEALTH

Health Aide, Worcester Public Schools
Project Health Aide is a cooperative training program between the Worcester Public Schools and St. Vincent Hospital. The program was designed to serve 20 students in classroom and clinical instruction. During the school year, 23 seniors received direct program instruction. Three days of classroom instruction were supplemented with two days of clinical experience at St. Vincent's Hospital. Students also were required to successfully complete a student internship at either a nursing home or hospital.

Twenty-three students completed the program and became certified as Health Aides. As of June 1984, 19 students were placed in health related jobs or accepted into post graduate schools for further training in a health career. Occupational placements include St. Vincents Hospital, Providence House and the Medical Personnel Pool at an average starting wage of $5.82. Post-graduate placements include Fitchburg and Salem State College Schools of Nursing.

Vocational Support-Health Aide, Springfield Public Schools

Approximately 80 students were projected to receive supportive related theory instruction within the three year Chapter 74 Health Assistance program at Putnam Vocational Technical High School. This instruction was specifically developed to ensure comprehension and enhance retention and completion by the large numbers (80%) of disadvantaged students served by the program. Related theory instruction was designed to increase student understanding of health concepts, employment practice expectations, and non traditional career choice considerations. The training was also expected to result in increased student competency within the shop area.

The project served a total of 98 students, of which 49 were ethnic minorities. All students successfully completed the program: there were no dropouts.

B. VOCATIONAL HOME ECONOMICS

Parenting and Child Care, Worcester Public Schools

This project served 43 grade 11 and 12 students, 29 of whom were designated as either handicapped or disadvantaged. This project modified the existing Early Childhood Education program by establishing an on-campus child development center at North High School rather than using community site placements such as day care and nursery schools. This decision was made in order to reduce student transportation costs, increase the total number of students served by the program and provide a viable preschool experience to low and moderate income parents. As part of this program, students plan daily activities in the areas of language arts, math, science, music, social studies, physical education and health and safety. Students also keep a daily log which identifies growth and development elements for the children in the program.

The project revitalized the Child Care program which faced declining enrollments and increased operating costs due to escalating transportation charges. Enrollment increased 23% from the previous year and of the 21 graduating seniors, 50% either were hired in child care positions or went on to college in early childhood and development. At the end of the school year, a survey was taken by the instructor to judge the student opinion of the program. The results were very positive.

Comprehensive Parenting Education, Somerville Public Schools

This project was designed to address basic parenting issues with the general student population and to also provide a support network for teen mothers and fathers. The focuses of the program and instruction included: sex education, parenting principles, dual homemaker wage issues. Activities included adult role-playing.

The program was successful in at least three ways. First, the program served as a model for similar programs at the regional level. Second, the program increased community resources and awareness of teen issues. Third, student drop-out rates related to pregnancy issues decreased.

C. TRADE AND INDUSTRIAL

Home Energy Auditing and Training (HEAT), Greater Lowell Regional Vocational Technical School

The Home Energy Auditing and Training project expands the vocational education of eleventh grade carpentry students through the inclusion of a

home/business energy auditing and weatherization component. Students provide audit/weatherization services such as, replace windows and/or doors, insulate and siding etc., to local residents.

The project meets training needs of students and provides valuable cost saving services to local homeowners and businesses.

Twenty of 21 students in the program passed the state Insulation Installers exam. The project also exemplifies coordination and cooperation between the vocational school, community and business and industry.

Computer Aided Drafting, Assabet Valley Regional Vocational Technical School

This project introduced 64 secondary students to computer aided design (CAD) terminology and concepts using a microcomputer, plotter and CAD software. All students were enrolled in the drafting department, and CAD supplemented the existing drafting curriculum. As a result of this project, students were able to develop blueprints using system commands, hand cursor manipulation and light pen manipulation.

This program was useful in that it met a well-documented training need. For example, high demand occupations in Massachusetts as well as other labor market studies note that with the expansion of electronic drafting equipment and computer aided design, there is a reduced demand for less skilled drafters. While not every facet of CAD can be taught on the microcomputer, important concepts of using the CAD system were provided to students. Further, students from Assabet Valley's drafting program can expect in the future an employment requirement from employers that they must be familiar with both CAD and CAM (Computer Aided Manufacturing).

D. TECHNICAL

Microcomputer Use and Repair, Northern Berkshire Regional Vocational School

This project was an inter-disciplinary exploration effort, providing an "exchange orientation program" for introductory students in electronics and distributive education. Funds introduced four computers with software pertaining to bookkeeping, accounting, and inventory control functions in the Distributive Education program, enhancing the skill training in this area. Funds were also used for micro-computer repair kits for use in the Electronics program, enhancing skill flexibility in that area. For part of the school year, the students in each program participated in a skill-exchange, switching shops. Students enrolled in Distributive Education were introduced to basic electronics and T.V. filming, while Electronics students were exposed to entrepreneurship skill-training.

Approximately 70 students were served by this program, about two-thirds of them female. It proved to be successful in overcoming student fear about computer use, and in exposing students more broadly to diverse applications of computer use, and the opportunities available in non-traditional careers. As a result, it was expanded during the current fiscal year, 1984-85, and more microcomputers were added to expand student contact.

E. MARKETING AND DISTRIBUTIVE EDUCATION

Banking and Finance, Assabet Valley Regional Vocational Technical School

This project served 62 secondary students enrolled in Assabet Valley Regional Vocational School's Distributive Education Program. A bank was initiated, with assistance from the Hudson National Bank. As a branch office, Assabet Valley's bank provides many of the same services offered at other chartered banks. For example, students maintain accounts using the data terminal, cash check's, operate surveillance equipment and write deposit slips and withdrawals. More important, students become familiar with the entire range of banking and finance career opportunities.

While students were prepared for entry level positions in the field of banking and finance, many students have gone on to further training in this field. The Hudson National Bank supported the concept of a bank at Assabet Valley and through the program's success, many other banks in Massachusetts and throughout the nation have expressed an interest in establishing a similar bank. Also, the project provided the impetus for overall changes in the Distributive Education department at Assabet Valley, changes which resulted in increased student enrollment and improved program quality.

Computer-Based Food Services Management, Fanning Trade High School

A Computer-Based Food Service Management System was added to Fanning Trade High School Food Service Program. The total of this project was to provide up-to-date computer-based management techniques to students enrolled in the Food Trades Program. Specific objectives included developing competencies in determining food costs through the use of a computer system. Students also order, purchase and maintain an inventory control program using a computer food services management system. And finally, students use the system for labor control, including cost per hour, cost percentage and cost per customer.

The project has succeeded in attracting both males and females (12 males and 20 females) and succeeded in placing students in employment and further education opportunities. The program provided entrepreneural skills to those students who will eventually start up their own small business. A survey completed by the school documents that up to 42% of these food trade graduates will open a small business. As a result of this specific component, students will further develop skills for self-employment through the use of a computer-based food management system.

F. VOCATIONAL AGRICULTURE

Agribusiness Training, Essex Agricultural Institute

This project provided data-entry skills, using microcomputers and appropriate software, applicable to agribusiness in the 1980's. Eighty-eight, eleventh and twelfth grade students were served.

The project successfully provided state-of-the-art instruction to improve students management/record keeping, and marketing skills.

Landscape Design Project, Norfolk County Agricultural School

This project provided intensive skills training in the most recent techniques of landscape design, in a variety of work settings such as retail garden centers, construction sites, and landscape design firms. The training included selecting materials, dealing with customers, and decision-making. The program's usefulness lies in its ability to fill an existing need for personnel trained in landscape design.

7. The Massachusetts Vocational Curriculum Resource Center

The following report reflects the activities of the Massachusetts Vocational Curriculum Resource Center between July 1, 1983 and June 30, 1984.

The Massachusetts Vocational Curriculum Resource Center made quality curriculum resources available to career, occupational and vocational educators in Massachusetts. Funded under a grant to Minuteman Regional Vocational School District, the Center operated a free-loan reference library. The Center also provided inservice training in the areas of curriculum design, development and modification. The staff of the Center included a director, a librarian, an inservice coordinator, and a support staff of three. The services of the Center were:

- a lending library of print and audio-visual materials,
- preview of software programs for the Apple microcomputer,
- dissemination of selected Massachusetts developed materials,
- workshops and inservice training seesions,
- computerized data base searching, and
- an information and referral service.

Through the lending library the Center collects curriculum guides and support materials and makes them available for reference and loan to Massachusetts educators. The collection includes curriculum guides, outlines, teacher materials, student texts and workbooks, courses of study and, supplementary teaching aids to support curriculum in all vocational trade areas. The collection also contains materials on vocational education for special populations, bilingual vocational education, and sex equity in vocational education. Educators can borrow materials by visiting the Center or by requesting materials by telephone or by mail. Approximately 8,040 items were loaned out in Fiscal Year 1984 in response to 2,140 requests for materials.

The Center also maintained a collection of software for the Apple microcomputer. Over 150 programs were available for review and many of the titles were also checked out on loan to qualified Massachusetts Vocational Curriculum Resource Center users. This software collection was for review and evaluation purposes only, allowing teachers to try out a program before purchasing it for their school. Two Apple microcomputers were available at the Center.

The Massachusetts Vocational Curriculum Resource Center distributed on a cost-recovery basis over 100 sets of the inservice training package, "Making It Work". This three volume set was developed as part of the Division of Occupational Education's ongoing effort to expand opportunities in vocational education to priority populations. It was selected as a 1984 Exemplary Product by the Dissemination and Utilization Program of the National Center for Research in Vocational Education. The Center continues to receive requests for copies of the Project Scope (Support for Co-educational Occupational Programs in Education) booklets, produced at Shawsheen Valley Regional Vocational School, and as copies are available they are sent out free of charge. Other Massachusetts developed products, including the model Competency Based Vocational Education curriculum guides, are entered into the library collection and are available for loan.

The Center provided inservice workshops to vocational educators throughout the Commonwealth. Some workshops are offered at the request of local school districts and are usually conducted on the premises of the requesting school. These are held either after school or during release time. Special sessions are also offered on a statewide or regional basis so that teachers from more than one school district can attend. The purposes of Massachusetts Vocational Curriculum Resource Center workshops are to assist vocational education professionals with curriculum design, development, or modification, as well as provide opportunities to disucss current trends in vocational education. During the 1983-84 school year 63 workshops were conducted for 971 educators. The Center staff was also active in making presentations at local and national vocational conferences.

Participants in Center training sessions included teachers and other school personnel, teacher trainees, Department of Corrections educational personnel, and staff of programs funded through the Job Training Partnership Act. Examples of training topics include:

Occupational Safety and Health
Competency Based Vocational Education
Teacher Authoring (software)
Modifying Curricula For Special Needs Students
Teacher Effectiveness and Student Expectations

The Curriculum Center also played a pivotal role in the development and management of a total of four days of inservice for vocational administrators and teachers on the subject of "Improvement of the Academic Curricula in Vocational-Technical Education". This major training effort is described in greater detail in this report on page 109.

If material was not available with the Massachusetts Vocational Curriculum Resource Center collection to answer a request, the Center staff was able to use computerized searching techniques to locate additional sources of information. Searches were conducted of the major educational data bases using an Apple microcomputer to access Bibliographic Retrieval Services. The Center also maintained communications with other curriculum centers nationwide through electronic mail. During the past year searches have been conducted on such topics as certification standards for vocational

instructors, office automation, and the availability of microcomputer software to support vocational education.

The Center maintains a file of other state and federal agencies that supply information and services to vocational educators. If a request can be better filled by contacting another agency this information is passed on to the requestor.

The Massachusetts Vocational Curriculum Resource Center published a quarterly newsletter, "Curriculum Currents". It was designed to inform readers about the materials and services of the Center and to provide a forum for sharing of information about programs and products within the state. "Curriculum Currents" was distributed to educators in vocational schools, comprehensive high schools and private or public vocational programs. It was also made available through the Department of Education's regional offices and the state's teacher training institutions. An annual book catalog listing all of the materials in the Center was also published and distributed. Subject bibliographies were developed and sent out upon request.

Policy decisions for the Center are made by an Executive Steering Committtee consisting of Ronald Fitzgerald, Superintendent-Director of Minuteman; John McDonagh, Division of Occupational Education; and Carol Laughlin, Center Director. The Massachusetts Vocational Curriculum Resource Center Advisory Committee meets three times a year and provides guidance and direction for the Center staff and serves as a link to the schools. Advisory committee members are chosen by the steering committee and represent all facets of the Center's target population including business and industry.

8. Improvement of Academic Curricula in Vocational-Technical Education

A major effort was undertaken during Fiscal Year 1984 to direct the attention of vocational educators in Massachusetts to the need to improve the academic curricula in vocational-technical programs. The combined efforts of the Division of Occupational Education, The Massachusetts Association of Vocational Administrators, and the Massachusetts Vocational Curriculum Resource Center led to the development of two, 2 day Conferences on the subject of an improved academic curricula. The conference design was to first convene the top administrators of vocational schools to examine the issues and to begin to identify solutions and then to select key academic and technical instructors from these schools to gather for a focussed workshop to discuss and plan a strategy for program improvement.

The first two day Conference was conducted in Worcester and 125 vocational school administrators participated.

Commissioner John Lawson and Associate Commissioner David Cronin opened the Conference with statements of strong commitment to the goals of these meetings and pledges of support from the State Board of Education and the Department.

Howard Greis, an industrialist and a member of the Massachusetts Board of Education and Bruce D. Hainsworth, Assistant to the Chairman of the

Foxboro Company, outlined the skill levels and attitudes desired by their firms for new employees. Professor Klaus Schultz from the University of Massachusetts, Amherst, spoke about a master's degree program to prepare recent graduates in math and science for a teaching career. The keynote speaker, Dr. James Howell, chief economist for the Bank of Boston, offered a challenge to vocational educators to join in a "triangular partnership" with economists and industry to improve communications. A slide show presented by Rodney Sutherland of Digital Equipment gave participants a look at the future of technology.

The rest of the first day and the second day of the conference involved an examination of possible curriculum improvements with an indepth look at the Principles of Technology Project. Dr. Daniel M. Hull, President of the Center for Occupational Research and Development (CORD), outlined the rationale associated with this project.

An added feature at this conference was a course of study exchange arranged by David Tobin. Each school was asked to bring copies of their course of study and a swap table was set up at the back of the room.

At the end of the two-day session, participants were asked to complete an evaluation form. The results of this evaluation were used to assist the planning committee in determining content for the second conference.
Conference II was held on May 3 and 4 at the Sheraton-Regal in Hyannis, Massachusetts. These sessions were planned for second-level administrators and teachers. Approximately 115 participants from 36 schools attended. Opening presentations were made by Mary C. Wright, Vice Chair of the Board of Education and Associate Commissioner David Cronin. Howard A. Greis, Bruce Hainsworth and Rodney Sutherland again shared the perspective of their organizations on the future needs of industry for vocational high tech students. Dr. Leno S. Pedrotti, Programs Manager for the Center for Occupational Research and Development presented an indepth look at the Principles of Technology Project design. At an evening session presentations were made by Richard Kellogg, Paul Bartolomucci, and John Roper, all instructors at Massachusetts vocational schools.

As a result of the enthusiasm of administrators and teachers and the identified need for improved math and science course offerings, the Division of Occupational Education has joined the Principles of Technology Consortium effort. Assabet Valley Regional Vocational-Technical School and Minuteman Regional Vocational-Technical Schools were chosen to pilot test the first seven modules during the 1984-85 school year.

9. Principles of Technology

One of the first and most significant results of the Conferences on Academic Curricula was the decision that Massachusetts would join the national consortium for Principles of Technology. This consortium of 33 states and two Canadian provinces is supporting the development and field testing of a fourteen unit print and videotape curriculum which is desinged for 11th and 12th grade students to learn the principles which underlie the operation of modern machinery and technological devices. The fourteen principles are woven through the four energy systems of electrical, fluidal, mechanical and thermal in the instructional materials.

The Center for Occupational Research and Development in Waco, Texas is responsible for print material development and the Agency for Instructional Technology in Bloomington, Indiana is preparing the videotapes along a line of learning objectives which intersect with the print curriculum. The consortium representatives from member states and provinces are guiding the development and field test process.

A Request-For-Proposals was issued in April, 1984 to the Commonwealth's vocational-technical schools which operate complete programs of shop, related, and academic studies. As a result of this competitive appplication process, Assabet Valley Regional Vocational Technical School and Minuteman Regional Vocational-Technical School were selected as the Massachusetts pilot schools for Principles of Technology. Four teachers from these two schools attended the national training workshop for pilot school personnel held in Dallas, Texas in late June, 1984. The principal pilot teacher at each school is a physics teacher with an advanced degree in the sciences and a strong background in science and mathematics instruction in vocational-technical education.

Massachusetts has exhibited a high profile in the Principles of Technology Project. One of the pilot school teachers has served as the mathematics counsultant to the project and the other pilot school teacher has been asked to author one of the units in the second year of the program. WANG Laboratories, Inc. of Lawrence has been one of the technology workplace 'reaction' sites.

D. **GOAL 4: TO PROMOTE INFORMED TRAINING AND CAREER CHOICES; TO ENABLE VOCATIONAL GUIDANCE COUNSELORS TO PROVIDE SOUND COUNSELING TO A BROAD RANGE OF PERSONS; TO PROMOTE THE COORDINATION OF VOCATIONAL GUIDANCE AND COUNSELING WITH THE BUSINESSES, INDUSTRIES AND PROFESSIONS WHICH EMPLOY THE GRADUATES OF VOCATIONAL EDUCATION PROGRAMS; AND TO ENCOURAGE THE FORMATION OF PEER AND GROUP COUNSELING ACTIVITIES TO RETAIN STUDENTS ENROLLED IN PROGRAMS THAT ARE NONTRADITIONAL FOR THEIR SEX.**

The Commonwealth of Massachusetts' commitment to provide support services that promote informed career choices is reflected in two major areas described in this section:

1. Guidance and Counseling
2. Student Organizations

1. **Guidance and Counseling**

The Governor of Massachusetts declared the first week in November, 1983 Career Guidance Week. During this week special recognition and publicity were given to career guidance activities in local schools.

During the year vocational guidance counselors were invited to attend two conferences. One held on November 8th was planned jointly between the Department of Education and the Massachusetts Vocational Guidance Association. Entitled Career Development, workshops were offered in such areas as, Improved Career Decision Making, Career Trends in Selected Industries and Employment Trends for the 1980's. The second conference, also held in November, was primarily for guidance directors from regional vocational technical high schools. These conferences were augmented by other statewide conferences which were broad based in direction and included career guidance workshops as well as other areas of guidance.

Federal funds were designated for programs aimed at improving guidance and counseling services in local schools. Staff at the state level provided technical assistance in proposal writing and monitored guidance programs after they were funded.

Two examples of guidance, counseling, and placement projects funded during fiscal year 1984 are described below.

Counseling Assessment and Support, Springfield Public Schools

This project was designed to provide improved guidance, counseling, and pre-vocational assessment services to approximately 790 students in grades 9 through 12. Funds provided salaries for 2 counselors, assessment materials, and counselor travel expenses.

Grade 9 students targeted for aptitude assessment and follow-up services were those who had stated a preference to attend a grade 10 vocational program. These services were provided to grade 9 students at their junior high school buildings. The intent of these guidance services was to progressively reduce drop-out rates from vocational programs.

The targeted students in grades 10 through 12 were those who were enrolled in vocational programs considered non-traditional for their gender. These students received individualized and group counseling services, again with the intent of increasing program completion rates.

On-site program monitoring and Quarterly Progress Reports indicated that the program impact exceeded the planned projections. A total of 1034 students received direct services from the project. An additional 28% of grade nine students received counseling and assessment services at the requests of junior high school building principals and city counseling staff.

In grades 10 through 12, approximately 70 nontraditional students in trade areas and some business/computer clusters received individual and group counseling support. On-site monitoring indicated 5 shop instructors contacted the project counselor to provide support for nontraditional students whose continuation appeared questionable. Approximately 75 Limited English Proficient students were served by the project, and 50% of the total number of students served were ethnic minorities.

Vocational Guidance, Whittier Regional Vocational School

This project was developed in response to the urgent request of teachers and administrators of sending schools to provide occupational information to all students in grades 7 and 8. Funds provided the salary for a part-time counselor who acted as a liaison with all in-district public and parochial grades 7 and 8. A complete program of occupational information was developed and provided for prospective students, to assist in effective decision-making with respect to career awareness and development.

Assembly meetings including student body, faculty, and parents were arranged within each school district. Film and slide demonstrations were also made available to all groups.

The project was successful in that it provided comprehensive, consistent, up-to-date, and non-stereotypical occupational information to all students in grades 7 and 8, in 9 towns and 2 cities. In addition, minority and female students were encouraged to apply for enrollment in vocational programs.

2. Student Organizations

Three student organizations were active in Massachusetts during the 1983-84 school year. This section describes the purposes and activities of these three student organizations:

A. Distributive Education Clubs of America (DECA)

B. Vocational Industrial Clubs of America (VICA)

C. Future Farmers of America (FFA)

A. Distributive Education Clubs of America

Distributive Education Clubs of America (DECA) is a National Vocational Student Organization for students planning a career in marketing, merchandising, management, retailing or distribution. DECA's two main objectives are to promote by every means possible understanding and appreciation for the responsibilities of citizenship in our free competitive enterprise system; and to further education in marketing, distribution, merchandising, retailing and management, which will contribute to occupational competence.

Through Distributive Education Clubs of America, members develop leadership characteristics; an understanding of the free enterprise system; the vocational understandings necessary to compete in marketing, merchandising and management careers; self-confidence and self-esteem; the highest ethical standards in personal and business relationships; greater proficiency in communications; an appreciation of the responsibilities of citizenship; a healthy, career-oriented competitive spirit; and social, civic and business responsibility.

In fiscal year 1984, the Massachusetts Association of Distributive Education Clubs of America was made up of 2,200 members in 130 chapters. In March, Massachusetts Distributive Education Clubs of America celebrated its 25th Annual State Career Development Conference. Six hundred and fifty students qualifying through seven district conferences, participated in competitive activities which included problem solving, role playing, and written examinations. These activities were evaluated by many dedicated business people to determine the most outstanding students in each occupational category. Approximately 100 students were selected to represent Massachusetts at the National Distributive Education Clubs of America Career Development Conference in Kansas City, Missouri. Nearly 6,000 Distributrve Education Clubs of America members from the United States, Canada, Guam, Puerto Rico, the District of Columbia, and the Virgin Islands participated in this conference. Twenty-one students from Massachusetts received national recognition during this conference, more than in any previous year.

1983-84 MASSACHUSETTS DISTRIBUTIVE EDUCATION CLUBS OF AMERICA ACTIVITIES/EVENTS

Activity	Month	Location
Officer Training and Leadership Development Conference	August	Fitchburg
Western Area Fall State Leadership Conference	September	Worcester
Eastern Area Fall State Leadership Conference	October	Mansfield
North Atlantic Regional ConferenNevember	New York	

Seven District Conferences	February	Hyannis Foxboro Boston Randolph Lowell Andover Worcester
25th Annual State Career Development Conference	March	Hyannis
Annual National Career Development Conference	May	Kansas City

B. Vocational Industrial Clubs of America

The Vocational Industrial Clubs of America (VICA) is a national student organization for students enrolled in trade, industrial, technical and health occupations programs.

Vocational Industrial Clubs of America's purpose is to complement the students' skill training with programs and activities designed to foster the development of such personal qualities as leadership, citizenship and character as well as the development of high standards of trade ethics, workmanship, scholarship and safety.

During the 1983-84 school year, Massachusetts VICA had 2,135 active members. Student members were given the opportunity to participate in several skill and leadership development conferences including; Fall Leadership Conferences, Industry Update Seminars, Workshops and the Skill Olympics.

Vocational Industrial Clubs of America Skill Olympics is a program of competitive events based on entry level job skills which exists for the purpose of recognizing vocational education students who excel in the occupational areas for which they are being trained.

The highlight of the year was the State Leadership Conference and Massachusetts Skill Olympics. Hosted by Greater New Bedford Regional Vocational Technical High School, there were over 700 participants who competed in 38 Skill events and 5 leadership events.

Industry involvement was again outstanding with over 200 representatives of Massachusetts industry taking an active part in the activities by serving as judges and technical committees who assumed the responsibility for selecting the skills to be judged, determining the format of the events and establishing the standards by which the contests are to be judged.

The State gold medal winners (43 individuals and teams) represented Massachusetts at the National Leadership Conference and United States Skill Olympics where Massachusetts contestants earned two gold, a silver and two bronze medalions as well as seven certificates of "Honor" (top 10%), four certificates of "Merit" (top 25%) and two certificates of accomplishment.

The Massachusetts Vocational Industrial Clubs of America Leadership Development Foundation received over $10,000 in travel scholarships, stock, supplies, equipment and prizes from Massachusetts industry.

C. Future Farmers of America

Future Farmers of America (FFA) is a National Vocational Student Organization for students enrolled in agriculture/agribusiness programs. The purposes of the FFA are to develop competent and productive leadership in agriculture; to create and nurture a love of country life; to strengthen the confidence of students of vocational agriculture in themselves and their work; to create more interest in the choice of agricultural occupations; to encourage members in the development of individual farming programs and establishment in agricultural careers; to encourage members to improve their home and its surroundings; to participate in worthy undertakings for the improvement of agriculture; to develop character, train for useful citizenship, and foster patriotism; to participate in cooperative efforts; to encourage and practice thrift; to encourage improvement in scholarship; and to provide and encourage the development of organized rural recreational activities.

In Massachusetts during the 1983-84 school year there were 1,048 members in 15 chapters. Members of the Massachusetts FFA Association participated in a variety of activities between July, 1983 and June, 1984.

GOAL 5: TO DEVELOP AND IMPLEMENT VOCATIONAL PROGRAMS AND/OR SERVICES THAT PROMOTE ECONOMIC DEVELOPMENT WITHIN MASSACHUSETTS.

1. Apprenticeship Training

Apprenticeship training is administered cooperatively between the Massachusetts Department of Labor and Industries, Division of Apprentice Training, and the Massachusetts Department of Education, Divison of Occupational Education.

Apprentices are recruited and indentured by the Department of Labor and Industries, Division of Apprentice Training. An indentured apprentice is a person who has entered into a written agreement with an employer, or an association of employers.

Apprentices indentured in the state program are assigned to public schools for related instruction by the staff of the Division of Occupational Education. Division staff approve grant applications for instructional salaries, instructional materials and clerical costs. Division staff monitor programs.

During the 1983-84 school year, 3,484 apprentices received related instruction in 91 classes in 23 trades. The Division awarded a total of $400,000 in state funds to 22 public schools to defray instructional and clerical costs.

In addition to the programs supported with state funds, various unions, non-union trade associations, and commercial operators offer programs which prepare apprentices. In 1983-84 2,338 persons were reported as registered in these programs.

2. Entrepreneurship

A state Task Force on Entrepreneurship was organized as one mechanism to promote economic development in Massachusetts. This effort was recommended by the Worcester City Manager with support from the Division of Occupational Education and the Minority Business Development Agency of the Department of Commerce and Development.

Massachusetts was selected by Oklahoma State University as one of twenty pilot states to participate in a national program to promote entrepreneurship education. Oklahoma State University will provide technical assistance to the Task Force and will collaborate in the presentation of a Statewide conference.

The goal of the Task Force on Entrepreneurship is to unite Massachusetts education business, industry, and government in an attempt to foster the development of training programs which will provide students and adults with the skills and knowledge required for success in private business ventures.

3. Interagency Industry Specific Skills Training

During fiscal year 1984, federal funds were set aside to support quick-start programs known as Industry-Specific Skills Training. The pupose of these programs was to respond to an industry's validated need for trained personnel in a specific occupational area, and to respond to the needs of the underemployed or unemployed. Four programs of this type were funded; one of these is described below.

Graphic Arts, Northeast Metropolitan Regional Vocational School

This program provided preparation in graphic arts skills for unemployed adults. Instruction in computer phototypesetting, mark-up, stripping, platemaking and press operation were included. Classroom and hands-on instruction in a modern shop were provided. An industry-based advisory committee monitored the progress of the program. Internships and job placement services were provided. Job placement was 100%.

4. Exemplary and Innovative Projects

This section describes the program outcomes and disposition of three exemplary and innovative projects for which fiscal year 1984 represented the final year of P.L. 94-482 funding.

Jobs for Baystate Graduates, Taunton Public Schools

Jobs for Bay State Graduates (JBSG) is a comprehensive, localized version of a national program for selected secondary students who are in the low quartile of the graduating class. It is designed to improve the academic skills, work attitudes and habits, and job-entry readiness of those who on the basis of tests scores and guidance interviews are likely to have job-finding problems after graduation.

The 89 students, half female, included 14 Black, 5 Hispanic, 35 disadvantaged, 5 handicapped, and 2 of limited English proficiency. Project staff gave them remedial reading and math instruction for 10 hours weekly for 20 weeks to raise the competencies of all to the sixth-grade level.

Job specialists trained by the parent Jobs for Baystate Graduates program at the state level worked 18 hours weekly for 52 weeks. For leadership training purposes, they set up a local chapter of the Bay State Career Association. They organized the student members into small groups for 30 hours per week for 40 weeks to teach appropriate work habits as well as job-seeking skills.

The job specialists advised the Career Association, sought entry-level jobs in the private sector and set up a job bank for identified entry-level positions. They visited parents, interviewed prospective employers, placed the students and then worked closely with student and employer for a period of no less than nine months after graduation and full-time placement.

Project monitors reported that Jobs for Bay State Graduates had achieved its goals with an 85 per cent success rate and a persistent follow-up program. According to the monitors, without the Jobs for Baystate Graduates training program, the student participants probably would not have been employed. The program will continue under other sources of funding.

Programming Applications and Management, Quincy Public Schools

The $70,000 received from this grant has provided Quincy High School with eight more microcomputers, ten computer terminals, four word processors,

and peripheral equipment including monitors and two printers. The grant permitted the school to centralize its computer/word processing program around its mainframe computer. The resulting new capabilities have strengthened the system's theoretical phases, console operations, software handling, hard copy printout and mass storage capability.

The expanded capacity permitted first priority scheduling of the 65 disadvantaged youth, half female, for whom this program was developed. Their activities were scheduled within the regular school day to be convenient to ensure their enrollment and full participation.

This program was part of the larger program "Data Processing Major I and II", for which enough terminals have been made available to allow students in grade 10 to join those in grade 11 and grade 12 in this major. Students so enrolled meet for at least 10 to 15 hours per week.

Also made possible is greater computer lab use by all interested students especially those in accounting and mathematics. During the school year the equipment is being utilized seven periods per day, five days per week, and before and after school.

As a result of new opportunities for "hands-on" computer training, the disadvantaged students have developed more positive attitudes toward school and better motivation and work habits.

For one disadvantaged student, program involvement motivated him to overcome a major attendance problem and to stay in school. His performance in a summer job in a laboratory in Cambridge led to full-time employment and excellent reports.

Project Umbrella, Northern Berkshire Regional Vocational School District

Project Umbrella began as a first-time collaborative effort between several rural school systems to meet a shortage of vocational skill training facilities for their 90 handicapped students. Earlier after-hours and summer programs tended to screen out students who had part-time jobs and/or home commitments. The regional vocational school was oversubscribed and for some years has turned away applicants.

Under this project the McCann Regional Vocational Technical School provided the leadership and the "umbrella" as a base of operations for a staff of skills training and support personnel to operate satellite programs within the county.

Satellite sites included the Drury School in North Adams where existing facilities were utlized for skill training clusters in Food Service featuring a salad bar, Small Engine Repair and Construction, and the Mt. Greylock School. At the latter, another comprehensive high school in Williamstown, the project staff established skill training clusters in Woodworking and Business/Office procedures.

Enrolled in the program were 43 males and 72 females, most of whom, in Chapter 74 prototypes 502.2 and 502.3, were only moderately handicapped. All of them gained work experience by performing supervised tasks throughout their high school buildings, as by doing small carpentry jobs

or by operating a salad bar. In woodworking, students performed actual work assignments in public buildings throughout the community, for example, they repaired office furniture; they made planters for main street sidewalks in North Adams, and they helped with maintenance of small power equipment for the city.

For the handicapped, the project improved self-image and identity as accomplishments increased, as they found themselves developing employable skills, as regular students realized that they could perform useful tasks despite physical limitations, and as project ativities generated favorable publicity and recognition.

Although in this economically depressed area jobs were scarce, local business and industry as represented through advisory committees and others in the community combined efforts to place most of the 23 handicapped graduates. Three who found permanent jobs were reported holding them nearly a year later. Four graduates entered the regional vocational school.

The results of this project demonstrated to these comprehensive high schools that they had the ability to provide job-ready, cost-effective skill training to severely handicapped students in a rural area with one of the highest unemployment rates in the state. This collaboration also showed the high schools that they could provide a realistic setting close to the capabilities of the students. It showed that they could utilize resources that were available and more appropriate for the handicapped than the faster-paced, more sophisticated programs of the area vocational-technical school.

Because of the lack of training-related job openings, because under the constraints of Proposition 2 1/2 the schools lacked funds for higher costs of skill training, and because they furthermore lacked enough shop space suitable for training the handicapped, the project staff had to limit the dimensions of the original project as funds and staff were cut back. Instead, the schools chose to emphasize career exploration and general employability skills taught in available facilties rather than incur costs of facilities and equipment for intensive skill training. To this extent, the project in more limited form continues under local funding.

F. GOAL 6: TO INCREASE THE EFFECTIVENESS OF LOCAL ADVISORY COUNCILS.

Local advisory councils are intended to serve a vital function in the planning, operation, and evaluation of vocational programs in the Commonwealth. Membership for local advisory councils was recruited from local business, labor, and industry. Advisory councils met to ensure that the curriculum and equipment were up-to-date and students were being effectively trained for employment. As a result of this liaison, many programs received donations of time and equipment.

The following project descriptions illustrate the variety of ways in which advisory councils were involved in federally funded programs and how many programs were improved as a result of this involvement:

Electrical Appliance Repair, Pittsfield Public Schools

This program was instituted three years ago at the suggestion of local appliance repair firm owners and local advisory committee members, who made a strong case regarding the number of employment options available for graduates in electricity basics and appliance repair.

Funds provided a part-time instructor, who taught an appliance repair unit half a day for 20 weeks.

As the program progressed, although it met with success in terms of skill-training for entry-level employment, it was recognized that the employment market was being saturated sooner than anticipated. The advisory board then recommended that the program be suspended until a market demand appears again. The elimination of this component then prompted a total reassessment of the electronics/electricity program at the Pittsfield Public Schools. Thus the advisory committee was instrumental in not only initiating a new program, but through its careful monitoring of the labor market, determining when the new program was no longer needed.

Caring for Children, Framingham Public Schools

The advisory committee for the Framingham Public Schools Home Economics Department and Caring for Children is made up of service providers, social service agencies as well as community members. The Advisory Committee suggested when the program was faced with budget cuts, to implement an inhouse nursery school laboratory at Framingham North High School. This change altered the program significantly and in many respects improved the quality of the child-care program. The change reduced transportation costs and yet provided increased administrative control.

The advisory committee has also provided advice and suggestions about the program newsletter, recruitment policy, equipment and charges for the nursery school. Based upon staff, parent and student evaluations, the changes brought about by advisory committee input has significantly improved the quality of the Caring for Children Program.

Career/Vocational Options, Worcester Public Schools

Through the efforts of Career/Vocational Options Advisory Committee, a school/business partnership was established. The purpose of this partnership was to provide students with opportunities for career exploration and preparation for the world of work and to accomplish this goal through a cooperative effort between business and school personnel. A pilot project was initiated at Burncoat Junior High School.

Representatives from the Advisory Committee were responsible for contacting companies, organizing dates and setting up suggested agenda topics. Through the success of this program, additional junior high sites were added and additional companies were recruited as school business partners.

A total of 32 companies and 86 different representatives participated. Over 3,300 students were served by this program.

Digitized Typography, Shawsheen Valley Regional Vocational Technical School

The line-o-typesetting equipment in the graphic arts shop became obsolete. The school was therefore forced to replace the equipment because the manufacturer could not supply repair parts or provide a service contract. The school matched P.L. 94-482 funds, and the obsolete system of six work stations was replaced with six digitized modular work stations to enable students to learn on state-of-the-art equipment.

The advisory council was instrumental in informing the school administration and school committee of the critical need for this equipment in the continued daily operations of the graphic arts shop. The council wrote letters of endorsement to the school committee, in addition to a presentation, stressing the need for new equipment. Members also visited the school shop to observe teachers and students and to provide support to maintain the program in a up-to-date condition.

Robotics Technician, Tri County Regional Vocational Technical School

The electronics advisory committee has played a vital role in not only reaffirming the documented need for trained robotics technicians, but also has made suggestions on the curriculum of the program. Suggestions include instruction in fluidics, chemistry, mechanics and optics. The advisory committee has also provided a listing of occupations and recommended training levels within the robotics industry, as well as providing the program with guest speakers and employment opportunities for qualified candidates.

Career Opportunity Program, Cape Cod Regional Technical High School

The Career Opportunity Program provided 50 unemployed, disadvantaged adults with training in cabinetmaking and turf management. In addition to the regular advisory committees in these two program areas, more advisory committee members were actively recruited to ensure the success of the program.

These additional advisory committee members (mostly employers) were instrumental in hiring the graduates of the program, served as guest lecturers, and provided strong input about the program's curriculum. Committee members were also instrumental in providing 50 hours of on-the-job training for each of the program participants.

Introduction to Robotics, Greater Lawrence Regional Vocational Technical

This project, which funded a heavy duty industrial robot and three single arm mobile robots, is providing automotive, drafting, electrical, electronics, and machine shop students instruction in the technology of robotics. The Advisory Council strongly supported the instruction of basic electronic applications for these students.

Council members demonstrated concern about searching for the equipment at the best price throughout the development of the program. Members are actively involved with the co-op program and provide continuous input regarding the needs of the students and their employment expectations.

Electronic Technology, Springfield Public Schools

The Springfield Occupational Education Advisory Council operates in conjunction with the Industry Education Council of Hampden County and meets monthly. The Occupational Education Advisory Council relies heavily upon the input of the Craft Program Advisory Committee and the General Advisory Committee for specific programmatic direction, modifications, major redirection and occasionally phasing out of program elements.

Combined past Chapter 74 Program Audit recommendations indicated an increasing demand for Electronics with a greatly decreasing demand for basic isolated Radio/Television repair skills. Consequently the

Craft Advisory Committee for the Putnam Electronics project strongly recommended the following changes:

- Redirection of existing Putnam Radio/TV grade 10 program to Introductory Electronics.

- Phasing out of vacuum tube/relay instruction and updating with solid state, module communication area theme.

- Updating of current shop program to state-of-the-art level by implementing advanced level Robotics programming, testing and assembling.

As a result of this input, and the coordination efforts of the school's Director of Occupational Education, this project was developed, written, approved by the Occupational Education Advisory Council and subsequently implemented.